—THE—

Therapeutic Gazette.

Whole Series, Vol. IX. | Detroit, December 15, 1885. | Third Series, Vol. I. No. 12.

CONTENTS.

Original Communications.

PAGE

Clinical Lecture on Melancholia. By H. C. Wood, M.D., LL.D. 793
The New Hypnotics. By Prof. Dujardin-Beaumetz 799
Sanguinaria Canadensis. By L. B. Anderson, M.D. 805
Clinical Observations with Hyoscyamine. By Joseph Schmidt, M.D. 808
The New Chilian Drug "Pichi." By Henry H. Rusby, M.D. 810

Leading Articles.

Chronic Lead-Poisoning 814
Dr. Neale's Modification of Dr. Felsenreich's Modification of Prof. Alexander Simpson's Axis-Traction Forceps. 815
The Prophylactic Treatment of Hydrophobia 816
"Isolating Medication" 816
Action of Cantharides upon the Kidneys 817
Effects of Cocaine and its Substitutes on the Vascular System 818
Treatment of Angina Pectoris 820
The Utilization of Condemned Criminals for Cholera Experiments 821
Gonorrhœal Rheumatism 822
The Metric System 822
Chicago as a Cholera Centre 823
The Trigeminal Cough 823

Reports on Therapeutic Progress.

The Influence of Cascara Sagrada on the Digestive Secretions 813
Treatment of Acute Rheumatism 813
The Intrascapular Injection of Water in the Extraction of Cataract 824

PAGE

Notes on the New Antiseptics, Hydronaphthol and the Potassio-Mercuric Iodide 825
Treatment of Otorrhœa 826
Causes and Treatment of Quinsy 826
Action of Oleum Thujæ and its Constituents 827
Treatment of Rachitis with Phosphorus 827
Antipyrine 828
Iodide of Methyl as a Vesicant 828
Ergotinine Injections in Goitre 829
Chloride of Aluminium in the Treatment of Diphtheria 829
The Influence of Various Foods on Digestion 829
The Treatment of Pneumonia by Quinine 830
Note on Treatment of Articular Rheumatism 830
Nitro-Glycerin 831
Therapeutic Effects of the Salts of Copper in Scrofula 831
Aspiration of the Aorta for Sudden Pulmonary Congestion 832
On the Importance and Diagnosis of Gonorrhœa in Women 833
Brucine 834
Chloral in Whooping-Cough 834
Management of the Third Stage of Labor 834
The Treatment of Epididymitis by Oil of Yellow Sandal-Wood 835
Aloin and Aloetin in the Animal Organism 835
Iodic Purpura 835
The Local Application of Chloral in Diphtheria 836
Treatment of Chorea 836
Quinine by Inunction 837
The Prevention of Mammary Abscess.. 837
On the Cause and Therapeutics of Insufficient Lactation 838

PAGE

The Subcutaneous Injection of Quinine 838
The Action and Uses of Digitalis, with Special Reference to Strophanthus 839

Reviews 841

Correspondence.

Berlin Letter 852
The Vivisection Question 856
Sequel to Typhoid Fever 857
Urtica Dioica 859
Treatment of Eczema with Oleate of Copper 859
Gelsemium-Poisoning 859
Chloroform Treatment of Tapeworm 860
Removal of Warts 860
Hyoscine in Puerperal Mania 860

Notes and Queries.

A Case of Poisoning by Muriate of Cocaine 860
Common Salt in the Treatment of Pleurisy 861
Poisoning by Chlorate of Potassium 861
Pharmacological Notes 861
"Aveloz," or the Brazilian Cancer-Cure 862
A Case of Poisoning by Eucalyptus 862
Unfavorable Symptoms after the Use of Antipyrine 862
Nephrotomy for Total Suppression of Urine 862
Tasteless Quinine 863
Massage of the Prostate for Retention.. 863
The Chemical Composition of the Leaves of the Erythroxylon Monogynum (vel Indicum) 863
The Chloroform Treatment of Tapeworm 863
Death or Coma 864
Apomorphine in Croup and Bronchitis.. 864
Removal of the Larynx 864

Original Communications.

MELANCHOLIA.

A Clinical Lecture, delivered at the Philadelphia Hospital.

BY H. C. WOOD, M.D., LL.D.*

(Reported by WILLIAM H. MORRISON, M.D.)

GENTLEMEN:—I propose to-day to call attention to the form of insanity known as melancholia. Of all forms of insanity it is the one which most frequently comes under the treatment of the general practitioner, and in which we find the most complete series of grades between a state of mental health and the most intense mental disease.

As an instance of it, let me describe a case which came under my care two or three weeks ago. A young, active business man, about 25 years of age, came to me, stating that he did not know what was the matter with him, that he was exceedingly depressed, had lost interest in his business, and that the whole world looked to him as though it were going to ruin. I found his urine loaded with crystals of the oxalate of calcium.

There is a condition of the body in which we find associated with a great deal of depression and a certain amount of weakness, the

* Neurologist to the Hospital, and Professor of Diseases of the Nervous System in the University of Pennsylvania.

presence of oxalate of calcium in the urine, and occasionally, although not always, dyspeptic symptoms. This condition, we know, is largely relieved and frequently cured by the free administration of nitro-muriatic acid with an occasional purgative. This, so called, *oxaluria* ought in my opinion to be considered the slightest form of melancholia.

Very recently I was consulted by a gentleman living in the central part of the State. In this case the attack dated from some love-trouble. As a consequence, the patient had become apathetic, had abandoned his business, and sat most of the time in a condition of semi-stupor, paying no attention to his surroundings. I was consulted as to the advisability of asylum treatment. Examination of the urine showed abundant crystals of oxalate of calcium. This case was, as you see, more severe than the first, in which the symptoms were so slight that nothing strange in the man's behavior was remarked by his friends. In both cases the urine contained oxalate of calcium. Under treatment the first patient has decidedly improved. In the second case the patient has not been under observation long enough to enable us to determine the result of treatment.

The relation between oxaluria and melancholia is not yet made out. It is rather strange that those who have large opportunities in asylums do not follow out closely this line of clinical research. Clinically we find two sets of cases in which there is melancholia associated with oxaluria. In one class, under the use of nitro-muriatic acid, the oxaluria disappears, and the melancholia melts away with the oxaluria. In the second class nitro-muriatic acid fails to remove the oxaluria, and at the same time fails to remove the melancholia. What the relation is between oxalic acid in the urine and the brain-symptoms is uncertain; but these two classes do occur clinically, and it is important to recognize their existence.

Passing on to fully-formed melancholia, we have a disease in which the basal condition is a profound emotional depression. In the large proportion of cases of so-called melancholia, even in cases found in asylums, there is no fully-formed intellectual insanity, but merely the emotional depression. The patient fails to be interested in the life around him, not because he is incapable of understanding the problems of life, but because nothing but himself is of interest to him or occupies his thoughts. In the lighter degrees of the affection the patient will tell you that he is horribly depressed and cares for nothing. The man or woman sits all day in a chair, quiet, perhaps, with the hands folded, seemingly thinking of nothing, with an expression of perfect indifference and apathy on his or her countenance. There is no interest in business, because the interest is all the time centred in the man himself. There is no interest in wife and family, not because the relations are not recognized, but because the man is absorbed in nursing the phantom spirit which oppresses him.

Then we go a step further, or we see a change come over such a person. Instead of simple apathy, there is wringing of the hands and perpetual moaning and lamentation, not for any definite reason that the patient can assign, but simply because of the depression of spirits. Under these circumstances it will be found that all the thoughts of the patient are tinctured with this emotional depression. If the man is a business man, he sees nothing but ruin before him. If he has a conscience which is not void of offence, the memory of his past misdeeds, like a Nemesis, forever haunts him. If his children are ill, they are going to be swept away to death. The whole landscape is covered with a black cloud, which throws everything into the darkest shadows. Nevertheless there may be even yet no intellectual delusions. When the patient is aroused he talks well and reasons well. If you can get him to forget himself for a moment his intellectual actions are perfect. After a time delusions make their appearance. They usually develop gradually, and not rarely are the outcome of some real feeling which the patient has.

The first case which I propose to show you illustrates the simplest form of melancholia, in which at present there is no delusion, although there was at one time a slight delusion of a hypochondriacal nature. This patient, A. W., aged 55 years, has led an active, temperate life, and there is no history of hereditary taint. Nevertheless she was admitted to the Philadelphia Hospital in January, 1885. She is, as you see, thin and frail-looking. This attack, which is the first that she has suffered, began in May, 1883, at which time the symptoms were insomnia, depression of spirits, and restlessness. On admission she seemed much depressed. She had attacks in which she cried, lamented, and wrung her hands. She was careless and untidy in her dress. Let me say, *en passant*, the carelessness in dress in melancholia differs from the carelessness in mania. In melancholia it grows out of the depression of spirits. The

patient feels that it makes no difference how such a miserable wretch as he is dressed. He is untidy, not actively, but apathetically. At the time of admission the patient answered questions intelligently. Her memory was good. No delusions were detected.

One week after admission it is noted "that the patient has been restless and melancholy; wrings her hands and sways backward and forward, repeating constantly the phrase, 'What shall I do? What shall I do?' This she sometimes continues for hours. She is unwilling to join in any amusement, and can give no cause for her grief." This perpetual repetition of a phrase is very common in melancholia, but it is also seen in other forms of insanity.

When asked what troubles her, our patient always answers, "I worry so, I am not like myself at all." She sleeps well the earlier part of the night, but wakes about three o'clock in the morning, and begins to cry and lament. You will frequently notice in these cases that they are more depressed in the morning than towards night.

After being in the house some months the patient objected to taking out-door exercise, because, as she said, it was making her as hard as iron to go out so much. She objected to taking medicine for the same reason. She also said that her head, her teeth, and her flesh were growing as hard as iron. This is the only trace of a delusion that we can get in the history of this patient, who has been under observation nearly a year. This delusion did not appear until she had been melancholic for eight or ten months.

On questioning the patient I find that she is not at present so sure about the delusion as she used to be, and appears, therefore, to be better. As she sits here she talks as rationally as any ordinary person of her class, yet she is undoubtedly a case of melancholia, and for a large portion of her time she still sits and wrings her hands with a perpetual moan over a nameless woe. This is a purely emotional condition, not an intellectual state.

This patient was well fed before being attacked with the melancholia, and during the early part of her attack her appetite was good. This differs from the history of most cases of this affection. Usually it will be found that the pulse is slow, especially in the earlier parts of the attack, that the tongue is heavily coated, that the breath is foul, that the appetite is impaired, and that the bowels are constipated. Frequently there is rapid loss of flesh, in spite of all the feeding that you can give the patient. Under these circumstances the patient entirely loathes food, and this for two reasons: in the first place, because food is physically disagreeable to him, because there is such a condition of the primæ viæ that there is no appetite, or worse than no appetite; in the second place, because life is more miserable than death. Often there is a suicidal undertone in the refusal; and again the patient says to himself, "There is no use in feeding such a miserable wretch as I am; I am not worth feeding."

These cases of simple melancholia require careful watching, because it is in them that suicide and even homicide are probably more frequently committed than in any other form of insanity. There may be no distinct hallucination or delusion, and yet the patient becomes so thoroughly miserable and wretched that life is thrown away because death is considered the better fate.

Such a patient as this is still capable of intellectual life. Nearly all Americans have a belief in a future world, and frequently you can prevent suicide by working on the fears of the patient. I have had patients whom I was perfectly willing to trust alone, and who, I am certain, would have committed suicide if they had not been afraid of what they believed came after death. It was the fear of the future that restrained them. If you take a person whose education has been such that he has no belief in a future existence, when he becomes insane a great preventive of suicide is wanting. Such cases must be watched more closely than those who have a religious belief. In those cases of suicide and homicide in which mothers destroy their children and then commit suicide, it will be found nearly always that the mothers were suffering with true melancholia or with melancholic monomania, and the mother has reasoned that for herself and for her offspring death was preferable to a miserable existence.

When we go a step further in melancholia we have both hallucinations and delusions. These appear sometimes earlier and sometimes later, but they always take the depressive type. Hallucinations of hearing are the most frequent. The patient hears voices, but these are evil voices. Those who have committed murder have sometimes asserted that they had two voices in them, one saying, "Kill! kill!" the other voice trying to restrain them. Men have held their hands in the fire until they were burnt black, because they have heard voices telling them that it was better to enter into the next world maimed

than to go with this hand guilty of blood or other offence.

Sometimes hallucinations of sight occur, but these are less common than hallucinations of hearing. Troops of demons pass before the patient. Spirits from the other world come before him, but it is never angels or spirits from heaven, but always sights of sorrow and of woe.

Delusions of touch are rare, and delusions of smell are still more uncommon. I do not recall a case in which I have seen a patient with delusions of smell. They, however, are occasionally present. The melancholic never smell pleasant odors. It is always sulphurous vapors or horridly fetid exhalations which continually oppress them.

We find that according to the nature of the delusion we have different forms of melancholia. Thus, there is hypochondriacal melancholia, in which the delusions relate to some portion of the person's body. It is curious to note that in a large proportion of instances the delusion centres around the sexual organs. They are, however, frequently connected with the abdominal organs, and more rarely with the limbs. I think that where there is a hypochondriacal delusion locating itself in some one organ there is almost always some discomfort in that organ. A man who has a little dyspepsia magnifies that into complete loss of digestion, and believes that he has no stomach, or perhaps will insist that food drops right through him. A man who has a sexual delusion very frequently has a history of masturbation or of some trouble connected with these organs.

Our next patient is one whom I have never seen before, sent here to take the place of one I had selected to bring before you, but who was taken acutely ill last night. The history of this case is as follows:

J. F. was admitted to the hospital two years ago. His age at admission was 30 years. There is a marked family predisposition to insanity, as shown by the fact that both his father and sister committed suicide. Two maternal uncles are stated to have died of paralysis. Another uncle died a drunkard. The patient had always been childish, but tractable and gentle. He is said to have been of an unsociable disposition, always preferring solitude and isolation. He has been addicted to alcoholic excesses. Despite the statements of early feebleness of intellect, the patient can read and write, and possesses considerable musical ability. He is said to have had a violent acute attack of insanity in 1877, which lasted four months, but of what type is not known. In 1879 it is alleged that he had an attack of sunstroke.

On admission he appeared to be in wretched physical health. He was continually thinking and talking about himself, looking at himself in a glass, and showing every evidence of intense anxiety and alarm. His predominant delusion was that he had hydrophobia, and occasionally he showed a disposition to bite his fellow-patients. This delusion remained in full force for about one year, when he suddenly imagined that he had poisoned himself with carbolic acid. Since then this has been his main delusion.

"Well, John, did you think you had hydrophobia?" "Yes, sir."

"How did you get it?" "A dog bit me on the arm."

"How did you feel then?" "Felt bad."

The resident (Dr. Henry) tells me that there is an old scar on his arm, and he believes that the man was bitten by a dog.

"What did you do when you had the hydrophobia?" "I stayed in bed five days."

"What cured you?" "I took medicine and got well."

"What is the matter with you now? Tell us about it." "I got poisoned with carbolic acid. I put my fingers in carbolic acid when we were washing the floors, and I put it on my tongue, and it burns all inside. I got two drops on my finger."

"Does it burn anywhere else?" "It burns around the heart and in the stomach."

"How long since you got this carbolic acid?" "Two years ago."

Our conversation with this unfortunate shows that he worries so much about his delusions that I am uncertain whether we ought not to consider him as rather suffering from depressive monomania than from melancholia. His delusions are somewhat systematized, but this is a matter whose detailed discussion I must postpone until my next lecture, the subject of which is monomania.

I learn that our patient did get a very small amount of carbolic acid solution on his tongue. The delusion consists in taking a small fact and magnifying it until it overshadows the whole life of the individual, being incapable of receiving evidence about it.

This reminds me to speak of a condition which is very common in melancholia,—that is, micromania. This does not belong exclusively to hypochondriasis; I have seen it in incipient sclerosis of the brain cortex. It is a condition in which a small thought is magni-

fied by the patient until it becomes his main thought. Matters of importance sink out of sight, while the most trivial things become the basis of an incessant stream of talk.

Another form of melancholia is the so-called religious melancholia, in which the delusions are connected with matters of religion. Under these circumstances there is nearly always in the past history a devotional, or what might, without any irreverence, be called the religious temperament.

This patient is Bridget M., 46 years of age, who was admitted to the hospital about three months ago. She is a healthy-looking Irish woman, fairly well nourished. The attack of insanity began about three months before admission. At that time she showed marked symptoms of melancholia. She thought that she had taken communion without perfect faith that the bread and wine were the body and blood of Christ, and that her soul was lost on account of this. For seven months previous to the attack she complained of buzzing in the left ear. There is now some impairment of hearing on that side. When admitted she was much depressed in spirit, and went about exclaiming that she was lost, that she was doomed to perdition. She says that she is not insane, and that nothing ails her except want of faith. She has led an active, industrious life, and there is no history of insanity in the family. In good weather she spends most of her time out of doors, where she will sit for hours, rocking herself back and forth, wringing her hands, and crying, in a singsong tone, "Why was I born, and what will I do? Why was I born, and what will I do?" She seems utterly miserable, and thinks that she is lost beyond redemption. During the past month she laments much less than previously, and her belief in the delusion appears to be not as strong as formerly. This is a typical case of a religious melancholia in an improving condition. In the fully-formed affection the patient sits, constantly wrings her hands, and cries, and has no thought for anything but her own woe.

I wish, in the next place, to show you a patient who illustrates a form of the disease known as melancholia agitans. It is, however, not a typical case. There are cases of melancholia in which the patient, instead of being apathetic, is excited and continually in motion, and perhaps tears his clothing and becomes very violent. This melancholic frenzy may closely simulate mania, but it may be readily diagnosed by the past history of the patient. Moreover, it can usually be made out that the individual is violent from fear rather than from aggressiveness.

The history of this patient is as follows: Alice B., 25 years old, single, was admitted one month ago. The patient is a slender, delicate-looking woman, fairly well nourished. No history of her attack can be obtained. She seems to be depressed in spirits, and cries frequently when talking. She answers questions rationally, but is apt to become incoherent and excited. She has various delusions of a depressing nature. She thinks that she is surrounded by enemies, and that she is suffering for her father's sake.

Let us see what we can learn from the patient herself.

"Tell us when you heard from your father last." "I can't; I am too excited. Bring Dr. Richardson forth. Correct. That will do. No, sir."

"Alice, did you see your father last night?" "He was sick. He was in Milwaukee, Wisconsin."

"Did he get well?" "He died. He went to purgatory, certain."

"Is he there still?" "Certainly not. No, sir. He got out because I suffered for him."

"Have you heard from him lately?" "I saw his ghost plenty of times, and heard him talk. Hain't that enough for yees?"

"What did he say?" "He said he was in purgatory, sure."

"Did he have a good time?" "He suffered. That was for what he did to my mother. He was a drunkard. He suffered for his sins."

This case illustrates another point,—that is, in some cases, especially where melancholia is associated with frenzy, the patient is not always depressed. There are intervals in which the condition resembles mania rather than melancholia. Melancholiac frenzy is to be distinguished from mania by the undercurrent of fear and depression, and by the fact that the delusions are of a depressing nature.

A man who is suffering from acute mania perpetually changes his delusions. They are unstable. They are fixed in the sense that he believes them at the time, but there is a continual change in the delusions. It is about one thing one minute or one day, and something else the next minute or the next day. In melancholia the delusion continues the same for weeks at a time.

Observe the appearance of this woman now. A month ago her face was lit up with agitation and excitement, but now that has passed

away, and you see the expression of depression and of melancholia.

"Are you sure you saw your father?" "I saw his head the other day. I heard him swear."

"Does your father ever touch you?" "No, sir. I was not crazy. I saw my father. My brother's trouble made me crazy. John Brown, come forth! Student of the medical department, come forth! Now swear him in. Hurrah!"

"Is your brother dead?" "No, sir. He is married and got a wife."

You see that this woman has delusions of hearing and of sight, but she has no delusions of touch or of smell.

I shall occupy most of the few remaining moments of the hour in speaking of the termination of melancholia, and narrating certain cases coming under my observation, which throw light, or rather throw darkness, upon the question of the nature of the change in this disease. In most cases of melancholia the recovery is slow. The prognosis in melancholia is much more unfavorable than in mania; and while in the majority of cases recovery, when it does take place, is gradual, yet there are cases in which the patient gets well almost at once. It is these cases which to my mind show the great improbability of our ever understanding the pathology of melancholia.

The first case that I shall relate is that of a lady with whom I was thrown in almost daily contact for many years. At the age of 45 she was taken with religious melancholia of the most pronounced character, which for many years was accompanied with agitation, and sometimes with frenzy. This persisted for fifteen years. There had been in all this time not the slightest wavering of the mind of that woman in regard to her future life. She firmly believed that her soul was irretrievably lost. At the same time her general emotional nature had undergone a retrograde change; she had become exceedingly jealous of attentions paid to other persons, and she had lost many of the peculiar traits of refinement which had been her especial characteristic. After being in an asylum for some time she recovered intellectual power sufficient to take charge of her husband's house with the assistance of an attendant, but there was no wavering in her delusion or let-up in her misery.

One night the attendant noticed this lady on her knees at the bedside. This was the first time in fifteen years that she had been known to kneel in prayer. The nurse, being a wise woman, did not disturb her, and there she remained all night. In the morning she came together with the family, and said that she had found Christ, and that she was perfectly well and happy. Her old disposition had returned, and her peculiar jealous sensitiveness had disappeared. The woman that had been buried for fifteen years had emerged in one night without even the grave-clothes about her. This continued for one week. Then the old cloud came on her, and for days she was in the old condition; but suddenly the sunlight again broke through the clouds, and she remained well for three or four days, to relapse, and after some hours regain her sanity. These attacks continued to recur at gradually lengthening intervals. Finally she had been perfectly sane for several consecutive months, when suddenly she was seized with a serous diarrhœa, causeless as far as could be ascertained, and hopeless as far as relief by remedies was concerned. In forty-eight hours she was dead. I believe that the cause of that death was the same obscure something which had so potently affected for years her emotional life, but which we cannot comprehend; that which for so many years had dominated the nerve-centres of higher life attacked and paralyzed the lower centres of animal life, and death came speedily.

Another case of melancholia was that of a lady who had been apathetic for a number of days, and could not be induced to speak a word to any one. Her husband, who was a Friend, took her with him to a Friends' meeting. She sat in the carriage, while he went inside. There had been no change whatsoever in her condition. While sitting here an old acquaintance, well known in the society of Friends, came up to her and offered to shake hands, but she refused. Then he repeated the well-known words of Peter in the temple, "Silver and gold have I none, but such as I have give I thee. In the name of Jesus Christ of Nazareth, rise up and walk." He then passed on, and nothing more was said. When her husband came out she met him with a smile, and said, "Good-morning, John. Let us go to Friend ——'s for dinner." At last accounts this woman continued rational.

Gentlemen, can you conceive of the nature of that structural lesion which for fifteen years had held the grip of death on the nervous centres, and then suddenly let go its hold? The fact is that when we come to study the ultimate nature of disease we are as ignorant

as babes. We take the ovum or the male germ and look at it under the microscope, but we see nothing but an irregular transparent speck of protoplasm; and yet the records of past generations are written in that little formless mass, in which also are enwrapped the potentialities of future generations untold in numbers. You can understand when so much can be within that which is so little and so structureless, how hopeless it is to expect that we shall ever understand the infinitely delicate changes which take place in the complex protoplasm of the brain, and to be able to say why these waves of emotion and these waves of mental and physical paralysis sweep over the individual. I believe that the changes are physical, but I also believe that it will never be within human power to recognize their nature. We consider the microscope the embodiment of delicacy and of precision. It is merely a coarse, blundering tool, which fails utterly in the hands of the man who attempts to fathom mysteries of this character. Not until we get the power and knowledge of the infinite can we hope to understand the ultimate changes of nervous protoplasm gone mad.

In conclusion, gentlemen, allow me a word in regard to one or two points concerning the treatment of melancholia.

In the first place, allow me to say that we have now tested in this hospital the hydrobromate of hyoscine upon a sufficient scale to enable us to speak with authority. When given hypodermically in doses of $\frac{1}{60}$ to $\frac{1}{80}$ of a grain it acts almost invariably in melancholia with agitation as an invaluable soporific and calmative. I have used it myself, also, in a number of private cases, and in the University Hospital service, and there seems to me no doubt as to its great and peculiar value. When administered by the mouth it acts with much less certainty; and as its hypodermic use is never followed by any local irritation, and as it is often much easier to give a hypodermic injection to a violent maniac than to get him to take medicine, it is best administered hypodermically. Although in most cases larger doses are required, it is not safe to begin with more than $\frac{1}{100}$ of a grain.

Some months ago I received a telegraphic dispatch from a very prominent Western specialist, asking if we had any cases of melancholia upon which he could demonstrate the almost specific action of cocaine. I replied in the affirmative, but heard no more about it. I have not sufficiently tested this alkaloid in melancholia to come to a fixed belief in regard to it, but have tried it in two cases, one without and the other with agitation. In the quiet melancholic no effect was produced by the largest doses of it administered by the mouth. If my memory serves me right, we gave as high as 3 grains of the alkaloid a day. In the other case half a grain administered hypodermically increased so markedly and alarmingly the physical excitement that we were afraid to try it a second time.

THE NEW HYPNOTICS.

By Prof. Dujardin-Beaumetz.*

"IT is a divine work to relieve pain," says Hippocrates; and, in accordance with this verity, the efforts of physicians have in all ages been put forth to mitigate the sufferings incident to the diseases of humanity. This is often the chief duty of the medical man as he finds himself in the presence of a fatal malady.

To-day the means for alleviating pain may be divided into four great groups: 1, hypnotics, which produce sleep, and thus bring the desired repose and calm; 2, analgesics, which are addressed principally to the element of pain; 3, anæsthetics, which extinguish sensibility, in whole or in part; 4, in the last group are placed medicaments which diminish the excitation of the nervous system, and which have been of old described under the name of *sedatives* or *antispasmodics*.

Each of these groups has received precious additions the past few years, and I propose now to devote my attention to the study of the first, namely, the new hypnotics.

Hypnotics (from ὑπνόω, I sleep) are medicines which produce sleep; and in order that the way these substances act may be understood, I shall briefly sum up the physiological phenomena which take place during sleep.

Many theories have been put forth as to the physiology of sleep, but at the present day most physiologists are agreed that the proximate condition of sleep is a diminution in the cerebral circulation,—a real transient anæmia of the brain. It is well known, since the researches of Quetelet, and especially of Milne-Edwards, whose recent loss science deplores, that the general circulation is retarded during sleep, that the number of pulsations is reduced, and that the combustions of the economy are slowed. The cerebrum participates in this diminution of the circulation, and we

* Physician to the Cochin Hospital, Paris, France.

have a certain proof of this in the various experiments made by Hammond and Durham, according to which, in dogs whose crania had been trephined, examination of the brain during sleep revealed a considerable diminution of the intracranial circulation.

These facts were confirmed in 1877 by Salathé, who showed, in his thesis on the movements of the brain, that during sleep there is a notable lessening of the cerebral expansion, —an expansion which you well know is in direct relation with the arterial irrigation of the encephalon. Finally, these facts have been verified by the remarkable experiments of Mosso. This physiologist has been able, in the case of a woman whose cranium had in part been destroyed by syphilitic necrosis, to register the expansive movements of the brain, and his researches have demonstrated these two important facts: that every intellectual effort augments the circulatory activity of the brain, and that it is during sleep that these movements of expansion attain their minimum.

Hence, then, every medicament which has for its effect slowing of the cerebral circulation may become a hypnotic, while, on the contrary, medicaments which congest the encephalon cannot be ranked in this category. It is understood that in the hypothesis which I have invoked to explain sleep the anæmia and the congestion of the cerebrum must not exceed certain limits, for when the cerebral anæmia is extreme it produces convulsive paralytic phenomena; and on the other hand, when the congestion is too intense, there supervenes a state of sopor which simulates natural sleep.

But, it may be asked, what are you going to do with opium and its alkaloids, which are known to be provocative of cerebral hyperæmia; are they not hypnotics? I reply without hesitation that I consider opium much more an analgesic and stimulant than hypnotic. In my opinion, opium does not cause sleep, despite the *virtus dormitiva* imputed to it by the medical undergraduate in the immortal comedy of "Malade Imaginaire." I know that in affirming this view I oppose traditional beliefs, but the more I study this question of opium, the more I am disposed to maintain my opinion.

Opium and morphine taken in therapeutic doses do not determine true sleep; they produce a special state of drowsiness, of reverie, and even of beatitude, but during which the cerebral functions, powerfully excited by the congestion determined by the opiate, continue to be active, and often in an extraordinary degree. These properties of cerebral excitation invest this drug with a powerful charm, and constitute the main motive to that modern vice described under the name of morphiomania.* I appeal in this connection to all who have ever made use of opium, and it will be found that the greater number will testify that they have found in this drug not a sleep-producer, but a potent calmer, under whose influence every painful consciousness is allayed.

Two new medicaments deserve especially to be studied among the hypnotics,—chloral and paraldehyde. I shall be brief respecting the first of these substances, for we are all now quite familiar with that admirable medicament which Liebreich introduced into therapeutics in 1869; to-day it is by the thousands of kilogrammes that chloral is used. I must, however, call attention to the fact that this drug is an irritant, and in 1871, during my researches with Herne, which enabled us to affirm the antiseptic properties of chloral, we had a good deal to say about the caustic action of this body. It is not, then, surprising to encounter in persons who make an abuse of chloral (for there are *chloralics* as well as *alcoholics*) gastric troubles precisely similar to those determined by the alcohols.

It is, then, always necessary to dissolve chloral in a great quantity of menstruum, and I have generally been accustomed to order this medicine in egg and milk emulsion. Despite these precautions, chloral is often badly supported; in this event, I recommend its introduction by the rectum, and have found it well tolerated when given in the form of enema, the dose of the hypnotic being rubbed up with a small cup of egg and milk. As for the administration of chloral by the hypodermic method, this mode ought to be reserved for cases of extreme urgency, such as strychnine-poisoning and puerperal convulsions, for the irritant action of these injections frequently determines eschars more or less extensive.

Many have been the hypotheses framed to explain the action of chloral; some authorities, basing themselves on such experiments

* This word, first proposed by Livenstein, or the more grammatical word *morphinomania* proposed by Prof. Ball, seems to me a better term to apply to the abuse—at the present day so often made—of morphine, than *morpheomania*, an appellation suggested by Zambaco, of Constantinople; it is not *sleep* that is sought by these victims of the morphine habit, but the *excitation* which this alkaloid produces.

as those of Personne, who found chloroform in the blood of chloralized animals, have maintained that it is by being decomposed into chloroform and formic acid that chloral acts. Others, on the contrary, have asserted that it exerts its power by properties of its own, not by the products of its decomposition. I quite agree with this view, and have no doubt that it is by acting directly in the state of chloral on the nervous elements of the brain and spinal cord that this drug determines its hypnotic and anæsthetic phenomena, and I invoke in support of this opinion the experiments which I performed a dozen years or more ago.

I injected a solution containing 45 grains of chloral under the skin of a hare: the animal, after having uttered several outcries, determined by the local caustic action of this solution, fell rapidly into a state of anæsthesia, absolutely similar to that caused by chloroform, and this condition lasted till the chloral ceased to be eliminated by the lungs and urine unchanged. How are we to explain the speedy total anæsthesia of this animal, if the theory of the breaking up of the chloral into formic acid and chloroform is adopted, a decomposition which requires a long time for its accomplishment, and which produces so feeble a liberation of chloroform that anything like profound anæsthesia would be impossible with such doses? But, while acting in the form of unchanged chloral on the nervous elements, this substance has the same action as chloroform,—that is to say, it produces anæmia of the brain. In this regard the experiments of Hammond are absolutely demonstrative. Chloral, then, must be classed among the true hypnotics,—that is to say, among the medicaments which produce sleep by anæmiating the cerebro-spinal axis. But by the side of these hypnotic properties it will not do to forget that chloral has an action on the heart, and, as Gubler has said, it is a cardiac poison in large doses, and in chloralized animals the heart is found in diastole. These three chief effects of chloral, its property of *decongesting* the cerebro-spinal axis, which renders it hypnotic; its action on the heart; and, lastly, its irritant effects on the stomach, ought to serve as our guide in the therapeutic application of this admirable medicament. In all the pyrexias of congestive form chloral will prove itself superior to opium as a sleep-producer; also in typhoid fever, in pneumonia, in alcoholic delirium, it is to chloral that we should resort to calm the agitation of our patients. In cases of rebellious insomnia, in neuropathic patients, chloral is the hypnotic to choose. On the other hand, chloral should be interdicted to persons suffering from cardiac affections, and in particular to those that have aortic stenosis or insufficiency; here opium is far superior. We should also refrain from prescribing chloral for patients affected with stomach disorders, for its irritant local action singularly aggravates the dyspepsias, especially those of irritative form. Finally, in diseases of the larynx and pharynx, the administration of chloral by the mouth becomes very difficult, by reason of the sensation of burning in the back of the throat which attends the swallowing of the chloral potion. But here again we can employ the enema of chloral, which is one of the best modes of introduction of this medicament.

Chloral, again, proves a good medicament in certain forms of poisoning, and especially in strychnine-poisoning, delirium tremens, and in uræmic poisoning of eclamptic form. In all these maladies it gives good results, but inferior, nevertheless, to those obtained by paraldehyde, of which I am now going to speak.

The aldehydes, taken in their aggregate, constitute to-day a special group of considerable size, to the study of which my colleague and friend, Dr. Bourgoin, has devoted an entire volume.* They are, as we all know, dehydrogenated alcohols, or, better still, the hydrides of alcoholic acid radicals. We shall here occupy ourselves only with ethyl aldehyde, or, as it has been called, acetic aldehyde, or, better still, hydride of acetyl, having for its formula C_2H_4O, the formula of ethyl alcohol being C_2H_6O.

Paraldehyde is a body which is constituted by the union of three atoms of aldehyde, and has for its formula $C_6H_{12}O_3$, or, preferably, $3(C_2H_4O)$. Paraldehyde, when kept at a temperature of 10° C., is a solid crystalline body, which melts above the temperature just given. This fusion-point enables us to distinguish the pure paraldehydes from those that are not pure. In commerce two kinds of paraldehydes are to be found,—the one liquid at 0°, the other solid at 10° C. It is to this last alone that the name of *pure paraldehyde* belongs.† This paraldehyde, pure, is soluble in alcohol and in water: ten parts of water dissolve one part of paraldehyde, and

* Bourgoin, Des Aldehydes (Encyclop. Chemique, 1885).

† Yvon.

this degree of solubility enables us to formulate the different preparations of which I am going to speak, and among which I shall signalize here especially two formulas which have been proposed by Yvon, the one a potion, the other an elixir. The potion is as follows:

Paraldehyde, 2 grammes (ʒss);
Linden [or camphor] water, 70 grammes (ʒii and ʒiiss);
Tincture of vanilla, gtt. xx;
Syrup of wild cherry, 30 grammes (ʒi). M.

The formula of the elixir is as follows:

Paraldehyde, 10 grammes (ʒiiss);
Alcohol at 90°, 48 grammes (ʒi and ʒivss);
Tincture of vanilla, 2 grammes (ʒss);
Water, 30 grammes (ʒi);
Simple syrup, 60 grammes (ʒii). M.

A tablespoonful of this elixir contains 1 gramme (15 grains) of paraldehyde. The potion may be given in the same dose. In my own practice I generally use the following formula, which is the same as that of solutions of iodide and bromide of potassium:

Take of Paraldehyde 15 parts (or ʒiij);
Water, 250 parts (or ℥vi).

Each tablespoonful contains 1 gramme (15 grains) of paraldehyde, and I give this solution with some kind of liquor,—rum, whiskey, or kirsch. Paraldehyde has a quite special, disagreeable odor, which resembles the smell of a tippler's breath; and it is by mixing it with alcoholic liquors of pronounced taste (like kirsch or rum) that you best get rid of this taste and odor. Dr. Desnos makes use of mucilage of gum sweetened with gooseberry syrup for vehicle.

Paraldehyde has also been given in the form of enema, especially in insane asylums, and Kéraval and Nerkam have employed the following formula:

Paraldehyde, 2 grammes (ʒss);
Yolk of one egg;
Infusion of marshmallows, 120 grammes (ʒiv). M.

These physicians claim that enemata of paraldehyde are superior to enemata of chloral, and according to them the active dose by enema would appear to be one-half less than by mouth. These same practitioners have employed paraldehyde in subcutaneous injections (always in insane patients). Their formula is as follows:

Paraldehyde, 1 part;
Cherry-laurel water, 1 part;
Distilled water, 3 parts.

Each gramme (15 grains) of this solution represents 20 centigrammes (3 grains) of paraldehyde. These injections, according to their statement, have always been safe, though very painful. The experiments which I have made with paraldehyde in subcutaneous injections have almost always determined in my patients not only pain, but inflammatory indurations, and even abscesses. I think, therefore, that we ought absolutely to banish from therapeutics subcutaneous injections of paraldehyde.

In what dose should paraldehyde be administered? Ordinarily we may obtain the desired effect by giving from 2 to 3 grammes (30 to 45 grains), and this in one dose.

But, before going further, it is necessary to know the physiological action of this substance.

In 1878, in our experimental researches undertaken to ascertain the toxic power of the alcohols (I allude to the labors of Audigé and myself), we took care not to omit the aldehydes; and resuming the experiments already made by Lussana and Albertoni in 1874, we showed that in the dog we could cause death with extreme rapidity when we introduced under the skin of this animal from 1.60 gramme to 2 grammes of paraldehyde per kilogramme of the weight of the body; and that in less dose we produced a very speedy and profound intoxication; therefore we have assigned to paraldehyde an important part in the poisoning produced by badly-rectified or impure alcohols, which contain always notable quantities of this substance.

Since the introduction of paraldehyde I have desired to take up anew this study, and see if any useful therapeutic applications could be derived from it. Acetic aldehyde cannot be employed of itself. This substance is so volatile that when you introduce a teaspoonful of it into the mouth it immediately becomes vaporized, and cannot be swallowed. I then undertook to employ a solid and stable combination of aldehyde, the aldehydate of ammonia, a crystalline and perfectly soluble body; but the aldehydate of ammonia is irritant and caustic, and when injected under the skin or introduced by the mouth it produces by its causticity such disorders that it cannot be employed.

Paraldehyde was introduced into therapeutics by Cervello in 1883; then appeared successively the labors of Albertoni and of Morselli in Italy, of Gugl and of Peretti in Germany, of Masius in Belgium, and, finally, my own studies in this country; and you will find in the remarkable thesis of my pupil, Dr.

Coudray, defended April 25, 1884, the principal conclusions at which we arrived. Still more recently our colleague and friend, Dr. Desnos, has communicated to the Academy of Medicine the results of his experiments.*

We experimented with aldehyde on different animals,—frogs, hares, guinea-pigs, and dogs,—introducing the toxic agent under the skin. When in the dog the dose of 2 grammes per kilogramme is attained, death is rapidly caused, with complete anæsthesia and loss of all the reflexes; and if the phenomena which manifest themselves are attentively observed, it will be seen that paraldehyde affects successively the cerebrum, the spinal cord, and the bulbus. This loss of the reflexes produces a double action on the circulation and on the respiration; there is a retardation in the movements of the heart and diminution in the arterial tension, as well as in the respiratory movements. Paraldehyde, then, produces effects similar to chloral and chloroform, which cause sleep and anæsthesia by anæmiating the cerebro-spinal axis. It is, then, a hypnotic in the true sense of the word. The sleep determined by paraldehyde is very like that produced by chloral: it is generally calm, but in many cases it is preceded by a period of excitation or agitation resembling alcoholic intoxication.

Paraldehyde is eliminated almost exclusively by the lungs, and the extreme volatility of this substance sufficiently expresses this fact. It is, in fact, noticeable that the breath of patients to whom have been given quite large doses of paraldehyde—3 to 4 grammes (45 to 60 grs.)—has the repulsive and disagreeable odor of persons addicted to alcohol.

To return to the physiological action. Despite the affirmations of Quinquand and of Henoque, who have maintained that paraldehyde acts on the hæmoglobin, causing the production of methæmoglobin, the experiments of Hayem tend to show that this view is erroneous, and that paraldehyde has little or no action on the coloring principle of the blood-globules.

But there is one point pertaining to these physiological studies which is exceedingly interesting, and which has been put in clear light by the Italian experimenters, and confirmed by the experiments of Coudray. I refer to the antagonism which exists between strychnine and paraldehyde.

In one of two hares two grammes of paraldehyde were injected into the cellular tissue; the other received none. A little strychnine was then introduced in the same way. The hare is extremely sensitive to this poison, and $\frac{1}{100}$ of a grain is sufficient to cause its death. Under the skin of the hare which had received no paraldehyde $\frac{1}{60}$ grain of strychnine was then injected. This animal immediately fell into the tetanic convulsions which characterize this species of poisoning, and shortly succumbed. In the hare that was dosed with paraldehyde $\frac{1}{12}$ of a grain was then injected (we may even go as far as *one-tenth* without causing death). The animal surviving, it was proved that the hare that is treated with paraldehyde will bear doses thirty times larger than the fatal toxic dose. It is the same with the dog: an animal of middling size will succumb when you administer to it $\frac{1}{10}$ of a grain of strychnine. When it is under the influence of paraldehyde you may give it $\frac{1}{6}$ of a grain without producing death. How are we to explain this antagonism?

This question deserves a brief consideration. We can give a physiological explanation, based on a curious experiment of Claude Bernard and Paul Thenard. They etherized hares, then injected anhydrous prussic acid under the skin. Whenever the animal was plunged into the anæsthetic sleep they could give him quite large doses of prussic acid without producing poisoning; but toxic symptoms appeared as soon as the animal recovered consciousness and sensibility.† The experiment to which I have just alluded may be tried with chloral or chloroform, and we shall see that the results are the same as with paraldehyde.

* Cervello, *Paraldeide come antagonista della Stricnina* (*Arch. per le Scienze Mediche*, t. vii. 6); *Ueber die physiologische Wirkung des Paraldehyds und Beitrag zu den studien ueber das Chloralhydrat* (*Arch. f. experim. Pathol. und Pharmacologie*, t. xvi. cah. 3 et 4); *Sull'azione fisiologica della Paraldeide e contributo allo studio del Clorallo idrato* (*Arch. per le Scienze mediche*, t. vi., No. 12). Albertoni, *Archives italiennes de biologie*, t. iii. fasc. 2. Morselli, *Irrenfreund*, t. xxvi. 3, 1883. Bergesio, *Rivista sperimentale di freniatria e di medicina legale*, 3e fascicule, 1882. Peretti, *Ueber die schlafmachende Wirkung des Paraldehyds* (*Berl. Klin. Wochenschrift*, No. 40, 1883). Gugl, *Ueber Paraldehyds als Schlafmittel* (*Zeitschrift f. Therapie*, 1883, 1er août). Berger, *Breslauer Ærtzl. Zeitschr.*, t. v. 6, 1883. John Brown, On the Therapeutic and Hypnotic Employment of Paraldehyde (*Brit. Med. Journ.*, May 19, p. 956, 1883). Langreuter, *Arch. f. Psych. Nervenkrankheiten*, xv. fasc. 1. Coudray, *De la paraldèhyde* (*Thèse de Paris*, 1884). Desnos, *De la paraldèhyde* (*Bull. de thèr.*, t. cix., 1885, p. 52).

† Dujardin-Beaumetz, "Clinical Therapeutics," p. 15 (edition of G. S. Davis, 1885).

We may even go farther, and affirm that between alcohol and strychnine there is the same antagonism; and the experiments of Amagat, of Luton, and of Jaillet have proved that if by strychnine one may prevent the grave accidents of acute alcoholism from being produced, conversely the phenomena of strychnine poisoning may be prevented by giving sufficient doses of alcohol.

Physiological researches have shown that all these medicaments—chloroform, ether, chloral, alcohol—act directly, unchanged, on the nerve-cell; and in some of my experiments I have indubitably shown, both in men and animals, the presence of undecomposed alcohol in the cerebral substance. We know, also, that strychnine has a marked action on the central elements of the cerebro-spinal axis; so that one may say that when a nervous element is impregnated by a medicament, it refuses, within a certain limit, to receive the impression of another medicament; and it is thus that we can explain in a physiological and scientific manner the antagonism which exists between the different substances which I have just enumerated and strychnine.

But it seems to me that we may go further, and explain the tolerance and intolerance of a certain number of medicinal substances. Medicines which have an elective action on the nervous system ought, in order to produce their effects, to act on the nervous elements in a perfectly healthy state; and it is sufficient that there shall have been cellular impregnation by another medicament, or a molecular modification, however inappreciable, in order that the natural effect of a drug shall not be felt; and it is in this way, in my opinion, that we are to explain the astonishing tolerance which certain inebriates manifest to substances of the most toxic nature. It is for this reason that in delirium tremens one may give immense doses of opium, or of strychnine, etc., without dangerous results. Likewise maniacal patients, for similar reasons, often show a strange tolerance for certain poisons. I will take as example the treatment of certain forms of madness by preparations of morphine. There are, in fact, cases where physicians will not hesitate to inject at once several grains of this alkaloid, and this without any bad effects.

In a similar way I would explain the tolerance and intolerance of medicines which some neuropathic patients present, and which Huchard has characterized by the happy term, *therapeutic ataxia*. We in fact see our hysterical patients suffer toxic symptoms from minute and almost homœopathic doses of certain medicaments, and bear without injury very large doses of other extremely powerful medicines. But let us return to paraldehyde, and consider the uses which may be made of this medicinal agent.

Paraldehyde, compared with chloral, has these advantages over the latter: it is less irritating, and for this reason it is better tolerated by the stomach and pharynx; it is not a cardiac poison, and, moreover, it works better than chloral in strychnine-poisoning, but it is less analgesic than chloral,—that is to say, it calms pain less; therefore, whenever the insomnia is caused by pain, paraldehyde will show itself inferior to chloral, and especially to morphine. On the other hand, in nervous insomnias, and especially in those produced by the abuse of alcohol, paraldehyde is much superior to chloral, and I have many times seen in my hospital service the great benefit which may be derived from paraldehyde in the disorders arising from inebriety.

Much use has been made of paraldehyde in the various forms of mental alienation. In France it is Dr. Kéraval and Dr. Nerkam who have made the greatest number of trials with it in maniacal diseases. They have shown that paraldehyde is an excellent hypnotic in certain forms of insomnia with restlessness, and which are so common in the course of cerebral affections. They have also noted good effects in the convulsive neuroses, and in particular in the epileptic crises and multiple manifestations of hysteria.* I will add that in many cases of morphiomania I have been able to replace the morphine injections to which the patients were habituated by paraldehyde in the dose of 3 or 4 grammes (45 to 60 grs.) a day.

It has been affirmed that chloral is superior to paraldehyde in the fact that the latter drug sooner loses its effect on patients than the former. My observations do not bear out this view, and I have seen patients who for months have always obtained the same effects from the same doses. I might cite, for instance, the case of a Mexican affected with chronic icterus, who has for more than a year been in the habit of relying on a 3-gramme dose of paraldehyde to get his sleep at night, and who never has been obliged to increase the

* Kéraval et Nerkam, *Action hypnotique et sédative de la paraldéhyde dans les différentes formes d'aliénation mentale* (Soc. médico-psychol., Mai, 1884); Nerkam, *Thèse de Paris*, 1884.

dose; and it is the only agent which we have found capable of safely combating the tormenting itching which deprives him of sleep, all other hypnotics having failed in consequence of determining ill effects on the part of the liver or stomach. I think, then, that paraldehyde does not lose its remedial power as soon as has been represented, and among the hypnotics it is one of those that may be the longest continued with the east inconvenience. Paraldehyde seems, then, to me to be especially indicated in strychnine-poisoning, and I believe it perfectly applicable to the treatment of eclampsia.

SANGUINARIA CANADENSIS.

By L. B. Anderson, M.D., Norfolk, Va.

To one who delights in perusing the musty tomes of medical literature, it is often surprising to see how old things have often passed away to be reproduced in after-years as something entirely new. But a few years ago, petroleum was announced as a valuable medicinal agent, and the medical world seemed to be elated at the idea that another valuable agent had been added to the list of our materia medica. While reading Mason-Good's "Study of Medicine," edition of 1816, I found that he had prescribed and recommended the same agent sixty years anteriorly. And now, while our list of medicinal agents is being lengthened by almost daily additions, many of our most valuable materials of olden times seem to be passing into oblivion, and their places taken by new and inferior agents. That an article which an experience of thirty years has taught me to esteem more highly than any one agent of our materia medica may not be subjected to such a fate is my apology for calling attention to the article at the head of this paper.

In the rich woodlands and sandy banks of our water-courses, in the latter part of March or early April, may be seen a beautiful snow-white flower mounted upon a delicate stem from four to six inches high, guarded by two pale green cordate leaves springing from a common base. Just beneath the surface of the earth, giving origin to the flower-stem and leaf-stalk, is a root from two to three inches long and half an inch in diameter lying very near the surface. The root is horizontal, fleshy, brittle, and giving out at its fracture an abundance of blood-red juice. This is the Sanguinaria, Puccoon, or Bloodroot, of which I propose to write, and is always a faithful harbinger of coming spring.

Scarcely any of our medicinal agents had in former years abler or more numerous advocates than sanguinaria. Several who have spoken in the highest terms of its remedial powers have described it as possessing drastic, narcotic, emetic, and purgative properties in large doses. This is not to be wondered at, when they used it in powder, which, when wet, is exceedingly tenacious, and mingling with the mucus of the villous coat of the stomach, would protract its emetic effect until general prostration would ensue, accompanied with the usual relaxation, torpor, and often sleep. This, however, is not the legitimate therapeutic effect of the drug when administered in decoction, tincture, or syrup, in no matter how large quantities, as will be shown in the sequel. Dr. Bard, of New York, recommends it in all diseases of the mucous membranes, in catarrh, typhoid pneumonia, rheumatism, whooping-cough, phthisis, and croup. Dr. Allen, of the same State, says it acts in pulmonary diseases with all the good effects of digitalis, and powerfully promotes diaphoresis in inflammatory rheumatism. Dr. Biglow says it lessens the frequency of the pulse, and in small doses is a stimulating tonic. Dr. Shanks, of Tennessee, speaks highly of its virtues in jaundice and hydrothorax. Dr. Branch, of South Carolina, says he knows of no single remedy which has given him such satisfaction in the treatment of croup; and, if given early, it prevents the formation of the diphtheritic membrane; indeed, he considers it wellnigh a specific in this disease. It possesses the peculiar advantage of not producing bad effects by accumulation, a teacupful of the infusion not producing prostration more than a small quantity. He esteems it a valuable remedy in pneumonia and chronic cough. Dr. Porcher, of South Carolina, says there is no one agent he so uniformly incorporates with his cough-mixtures, and that he esteems it highly as a tonic, expectorant, and alterative. Dr. Bird, of Georgia, claimed for it tonic and febrifuge powers equal to cinchona. But Dr. Eberle says this is no doubt an erroneous estimate; although it will often speedily put a stop to intermittent fever, its tonic properties are incomparably below those of cinchona. He continues, its properties are certainly peculiar, being capable of producing tonic, narcotic, stimulant, and emetic effect according to the dose and form of administration. He claims to be fully satisfied that its effects on the action of the heart and ar-

teries are fully as certain, if not more so, than digitalis.

Dr. Francis, of New York, says he has derived great benefit from it in a long-protracted trouble of the chest, attended with dyspnœa and hemorrhage. Dr. Ives, of Connecticut, has observed in plethoric constitutions, when the respiration is very difficult, the cheeks and hands become livid, the pulse soft, vibrating, and easily compressed, the blood-root has done more to remove the disease than any remedy he has ever used. He also recommends it highly in influenza, whooping-cough, and croup. Dr. Eberle adds: in protracted catarrhal affections assuming the character of incipient phthisis pulmonalis, the tincture of this root has not infrequently, in my practice, afforded complete relief. In cases of this kind it undoubtedly should be esteemed among the most valuable remedial agents we possess. Dr. Eberle also says it is a valuable agent in reducing the frequency of the pulse, in promoting expectoration and convalescence after violent pulmonary troubles.

Dr. McGown, in his "Diseases of the South," says that in the latter stages of croup puccoon would be probably more efficacious than any other remedy. He recommends it also in typhoid pneumonia. It will suffice of itself to cure the jaundice; it is valuable in dysmenorrhœa, in atonic dyspepsia, in chronic bronchitis, chronic rheumatism, consumption, intermittent fever, etc. Dr. N. S. Davis recommends this agent in bronchitis, laryngo-trachitis, croup, roseola, and rubeola. Merrell in his Materia Medica, says, "This drug is useful in two opposite conditions. In atonic states of the mucous membrane of the stomach, bowel, and bronchiæ, in full doses, and in small doses, in respiratory diseases, when the respiration is difficult, throat and air-passages very hot and swollen, cough harsh and dry, etc., it is a valuable remedy. Dr. Boss, of Georgia, says it is peculiarly beneficial in the treatment of diseases of the throat, chest, stomach, and liver. It is a very positive remedy in bronchitis, catarrh, influenza, pneumonia, asthma, croup, diphtheria, cynanche maligna, etc. It has cured for me many cases of chronic bronchitis, dyspepsia, and has benefited jaundice and other liver-affections. To these might be added the testimony of many more, but these will suffice.

I will here state that I have been using sanguinaria for thirty years in my practice, scarcely passing a week in that time that I had not one or more patients using it, and I can confidently affirm that in no case have I ever seen any signs of acridity or narcotism from its effects. Its nausea is never sickening and prostrating like most other emetics. When nausea is excited by it, it either speedily passes away or culminates in emesis, and I have never seen nausea persist after once vomiting. In these respects it differs from and excels all other nauseants I ever used. The supposed reasons why others have expressed contrary views have already been given.

From the summary above made we find that the therapeutic application of puccoon has been very wide. But in a close analysis of the views of authors in times and countries far removed from one another, we find the most remarkable agreement in one grand leading idea, viz., that sanguinaria exerts a most decided and constant control over the capillary circulation of mucous membranes. And its influence over the circulation and secretion of the liver is doubtless due to the same cause. Through this specific action on mucous membranes, its remarkable effects in pneumonia, kidney-troubles, and rheumatism, through the kidneys, are no doubt secondarily accomplished. In this view of its *modus operandi* my own experience and observation most fully accord. And why all who have tested its virtues in diseases of mucous membrane have not reached the same satisfactory conclusions is doubtless owing to the character of the preparation used.

When I began the use of sanguinaria I used a saturated tincture of the recent root. I gave it in all portions from 5 drops up to a teaspoonful, and discovered no unpleasant effect from the largest doses, save a slight nausea, speedily followed by quietude or prompt emesis. I gave it to children three days old, and to others in all decades of human existence up to ninety. It would, when freely given, always promote a free discharge of mucus from the nasal, pharyngeal, laryngeal, and bronchial mucous membranes in diseases of those tissues. Hence in nasal catarrhs, accompanied with symptoms of recent colds, such as headache, pain in the back and limbs, dryness about the nares and throat, feverishness, and chilliness, I have often given a teaspoonful of the tincture in a wine-glass of sweetened water at bedtime, and found the patient entirely relieved the next morning. In the so-called "hay-fever," when freely given in its early stages, it has often effected a cure in persons who had annually had attacks lasting for weeks, despite all the remedies they had used. A few weeks ago a case of this

sort came under my care which had lasted two weeks before I was consulted, and under the use of sanguinaria, with an occasional dose of blue mass and insufflation of hot soda-water, the disease was cured in two weeks. To a child a year old, who awakes during the night with a sense of suffocation, arising from laryngeal stricture, accompanied with a frequent ringing, metallic cough and fever, 20 drops of the tincture given every fifteen minutes till emesis ensues generally affords entire relief in an hour or two. So uniformly efficient has this remedy proven in croupal coughs that I have found nothing else needed. When, however, the disease has progressed until tumefaction of the tissues has occurred from infiltration into the submucous cellular tissue, I no longer rely exclusively on sanguinaria, but while continuing that in small and frequently-repeated doses, with small portions of chlorate of potassium, I give a very large dose of calomel, which generally relieves in a few hours very desperate cases.

In all stages of whooping-cough, in the incipient stage of bronchitis and the second stage of pneumonia, and in all stages of phthisis pulmonalis, I have often found sanguinaria to meet indications which nothing else would fill. In measles, rötheln, and the malignant throat-troubles of scarlatina, it frequently subserves a purpose which nothing else will accomplish. But in the much-dreaded and so often fatal diphtheria, I know of no agent which is at all comparable to it. I have had cases in families in which diphtheria of a very malignant form was prevailing, seized with violent sore throats, croupy coughs, high fever, and violent sense of prostration, take the tincture or syrup of sanguinaria in large and frequently-repeated doses until free vomiting was effected, when copious streams of ropy mucus mingled with a large quantity of foamy bile would be discharged, affording entire relief of all the symptoms. When called to a case which has progressed to the formation of the diphtheritic membrane on the fauces, I give a large dose of calomel and administer sanguinaria in medium doses every hour, and frequently cast upon the tongue a small portion of an impalpable powder composed of sac. alba and chlorate of potassium two to one. If the fever is very high I give also spts. nitrous ether, ℥i; fl. ext. ipecac, ℈i; tr. aconite root, ℈i. M. 10 to 20 drops every hour, with sanguinaria. And if there be a distinct remission of fever in the morning and an exacerbation in the evening, I give quinine during the intermission to arrest the anticipated febrile paroxysm. But all the while I give sanguinaria as my sheet-anchor. Under this general plan of treatment of children, eschewing all ferruginous preparations as purely empirical and unphilosophical, and giving quinine only as a neurasthenic when the fever has assumed a periodical form, eschewing all moppings as only calculated to irritate the inflamed and sensitive mucous membrane, and using external inunctions of camphorated oil, covered with a flannel around the neck, I have met with such gratifying success as to render it undesirable to change it. In a paroxysm of asthma it is incomparable.

The great question which most interests the therapeutist is, What is the *modus operandi* of this agent that makes it so efficient in such formidable complaints? The most obvious effects are an increased secretion from the respiratory mucous membranes. This impression extends more or less to all the mucous tissues, as is evinced in its sanative effects in aural catarrh, obstruction of the liver-ducts, and the dry condition of the gastric and intestinal mucous membranes, in typhoid fever, in which condition the sanguinaria often exerts a very salutary effect. This result seems to spring from the influence the agent exerts over the vaso-motor nerves controlling the capillary circulation in the mucous membranes as well as the organic nerves, through which the nutrition of the parts is accomplished. That such is the case we deduce from the effect of a full dose at bedtime in an incipient catarrh, and the rapid resolution of pharyngeal and laryngeal inflammation in incipient croup and diphtheria. When, therefore, the grade of pharyngeal inflammation has become so intense as to cause a rapid exosmosis and organization of fibrin, thus forming a false membrane, whatever will restore the circulation, re-establish a healthy nutrition, and resolve the inflammation must arrest further exudation, cut off nutrition from the false membrane and cause it to die and slough off. In sanguinaria we have an agent which fortunately meets these indications in a most gratifying degree, and often accomplishes these results more successfully than any other agent I have ever used or seen used.

Modifying, as it does, to some extent, as affirmed by many and approved by my own experience, the action of the heart and arteries in a hectic condition, while at the same time it promotes the free secretion of mucus from the bronchia and duodenum, thus relieving lung pressure and causing a free elimi-

nation of bile from the liver, we may readily perceive how it would enter as an important factor in the treatment of tubercular consumption. Taking a valuable practical hint from an article of Dr. Gardner, of Charlotte County, Virginia (see *Medical Recorder*, vol. of 1819, I think), I have treated many cases of pulmonary tuberculosis with a combination of equal parts of tr. sanguinaria and fluid ext. cimicifuga racemosa, giving 20 drops of the mixture in simple syrup every two or four hours and at the same time using the comp. fluid ext. of Sarza-pseudo-China (see THERAPEUTIC GAZETTE, 1883), with results far more satisfactory than I have ever obtained from any other plan. Ignoring what I conceive to be *the mythical pathogenic bacillus*, and resting alone on the basis of a rational pathology, the chest is kept in a state of pustulation by tart. antimony ungt. to subdue inflammatory complications, the sanguinaria and cimicifuga (sometimes, when the liver is torpid or the bowels affected, combined with small doses of nitric acid) are given to promote easy expectoration, moderate the action of the pulse, reduce fever, and thus remove the lung-pressure, while the comp. fl. ext. is given to promote digestion, give tone to the organic nerve-centres, excite the action of the absorbents, and thus build up the wasted tissues, while removing the débris of retrograde metamorphosis.

I have never succeeded with the most carefully-prepared fluid extracts or tinctures of sanguinaria made according to the formulas of the Pharmacopœias. They are much more acrid, pungent, and peppery than the tincture prepared from the recent root or that made from the long-dried root according to the formula below given. My experience has taught me also that the tincture, no matter how prepared, will not retain its virtues for any great length of time; probably not satisfactorily over three months. Hence, when I desire to preserve it for a long time, I make it in a syrup. I think the best specimens I ever used were made from the recent root procured in the winter. It is very difficult to find, however, before the delicate white flower, the harbinger of spring, makes its appearance. The root should be procured as early as possible at this season, carefully washed as soon as practicable,—certainly before it begins to dry,—and then carefully dried. When intended for immediate use, it should be cut into small pieces, and four ounces put into a quart bottle, and that filled with diluted alcohol. If frequently shaken and kept in a warm place, it will be ready for use in two or more days. Some have affirmed that alcohol more fully extracts its virtues than water, especially the coloring-matter. This does not accord with my experience. Recognizing the large quantity of water contained in the recent root, and the rapid extraction by diluted alcohol of the full virtues of the root in this state, as well as the milder and more efficient character of such preparation, I inferred that by restoring the dried root to a condition as near as possible that of its recent state I would secure a preparation nearly, if not fully, equal to that obtained from the fresh root. Hence the dried root, which had been carefully gathered and dried by my directions, was broken into small fragments and four ounces put into a quart bottle. To this a sufficiency of boiling water was added to saturate it thoroughly and have a small surplus remaining. This will make the bottle half full of water and ingredients. After standing for twelve hours in a warm place, the bottle is filled with diluted alcohol, and the whole digested for a few days, frequently agitating it. It is then strained off and preserved for use. When I wish to keep it for a long time, or render it convenient for use, especially with children, one part of the tincture is added to three parts of syrup, of which a teaspoonful is an ordinary dose for an adult. In order to make it more agreeable, a little tincture of cinnamon, essence of lemon or orange may be added.

For many years I have been thus procuring, preserving, and preparing this medicine, and having derived such satisfactory results from its use I have deemed it proper to present it anew to the consideration of the profession.

CLINICAL OBSERVATIONS WITH HYOSCYAMINE.

By JOSEPH SCHMIDT, M.D., BERLIN, GERMANY.

THE uncommon interest which the recently-published clinical trials with hyoscyamine elicited, and the still existing uncertainty as to the actual therapeutic value of this alkaloid, induced me to ask my colleague, Dr. Bock, of the Hospital of Mental Diseases, at Pankow, Berlin, to exhibit the drug to appropriate patients, and to allow me to take notes of the cases. I shall only speak of five cases in which the effects obtained were palpable and definite. The drug used was in every instance the sulphate of hyoscyamine, and the quantity

injected subcutaneously 0.003, in one case only 0.002 ($\frac{4.5}{100}$ to $\frac{3.0}{100}$ gr.).

CASE I.—A. F., alcoholic individual; had obtained but little morphine lately and none formerly; is mostly excited and clamorous.

CASE II.—R. W., paralytic; for some time and until first day of these observations treated with pretty large doses of morphine; is nearly always in a state of restless and intense agitation.

CASE III.—B. J., paralytic, lately treated with large doses of morphine; was for some time, day and night, in a violent rage.

CASE IV.—C. R., likewise paralytic and permanently wild and furious; during the last couple of days especially excited; had obtained large doses of morphine.

CASE V.—D. T., a boisterous maniac; treated formerly with large morphine doses; recently obtained morphine in small doses, and at great intervals; is nearly always excited.

These brief personal sketches of the patients will suffice to demonstrate that their selection was highly suitable for the intended purpose. All patients who received the mentioned dose of hyoscyamine showed, ten minutes after the injection, a pronounced dilatation of the pupil, with a minimal reaction to light and accommodation. A quarter of an hour after the injection the graver physiological effects of the alkaloid manifested themselves with characteristic precision. It was evident that the central nervous system, with its entire sensory and motor apparatus, could no longer dispense its functions on its wonted physiological basis, but labored under a sudden and profoundly toxic impression. Especially notable were the weakness in the extremities, the staggering gait, and the indistinct speech. The tension of the pulse was increased, while its frequency and the respiratory functions in general remained apparently unaltered. The weakness in the lower extremities was, in patient I., so extreme that he could not support his trunk on his limbs, and collapsed. Even the other patients felt compelled either to sit down or to lie down, and staggered to and fro whenever they attempted to rise again, —what some could not accomplish at all. The defective speech grew, in patients I. and II., into complete asphasia. The motions of the upper extremities showed frequently atactic and paretic symptoms, as expressed, for example, by the inability to hold a cup in the hand.

Patients I. and III. fell occasionally into convulsions, moving especially the fingers forward and backward, or at other times lay down in a state of stupor and somnolence.

In patient V. all the above mentioned symptoms were less marked. His staggering gait lasted one to two hours, the indistinct speech one hour, the confusion and psychical quiescence one and one-half hours; after that the patient presented no abnormal symptoms excepting the dilatation of his pupils, which remained for some time longer. The fact that this patient alone received but two mgrm. ($\frac{3.0}{100}$ gr.) and all others three mgrm. ($\frac{4.5}{100}$ gr.) might serve to explain why the intoxication was less marked in this case than in any other.

The four other patients fell, one to two hours after the hyoscyamine injection, into a light slumber, lasting three to four hours; they could all be easily awakened. The confusion and stupor lasted, in patient I., about eight hours; in patient II., about six hours; in patient III., about four hours; in patient IV., three hours. The expression of the face was, in all patients, one of depression, confusion, or suffering. The staggering gait lasted, in these four patients, two to five hours; the defective speech, one to six hours. All morbid symptoms were most pronounced in patient I., and, as stated above, least in patient V. Patient III., who for some days previously had been in a state of great fury, lay somnolent or actually sleeping the whole day on the sofa.

The prior state of excitement returned, in patient I., about seven hours after the injection of hyoscyamine; he threw the pillows to and fro, uttered inarticulate sounds, and was still unable to rise. Patients II. and III. rested, against their custom, quietly the whole day on the sofa, though their mental clearness did not return for some time. Patient IV. had, after the lapse of four hours, regained his former mental condition, though only for a short time. Patients I., II., and III. complained for six hours of peculiar sensations in the left hypochondriac region; pain, on pressure, was not present; gastric pains, eructations, and dryness of mouth could not be made out, even by repeated questioning. Patient I. only had vomited half an hour after the injection, though, it must be added, emesis had invariably taken place after every morphine injection. Previously the patients did not experience any great thirst, and the appetite was only reduced in patients I. and II.; difficulties of swallowing were in no instance present. Cephalalgia existed only in patient II. The stools were normal in

patients I., III., IV., V.; the urine normal in all patients. The dilatation of the pupils lasted, in patients I., II., V., about nine hours; in patient III., only five hours; and in patient IV., six hours.

A depression of the entire system, a degradation of the perceptive faculties, total absence of psychical excitation, and a considerable lowering of the motor functions manifested themselves with considerable clearness in every patient.

On the following day patients III. and I. received two mgrm., patient IV. but one mgrm. In patient I. staggering gait, confusion, disturbance of speech, and muscular (motor) weakness presented themselves, as on the former occasion. Patient IV. showed but an inconsiderable quiescence. Patient III. showed dilatation of pupils, slightly staggering gait, pain in the left hypochondriac region, but slight mental depression.

On the third day patients IV. and I. received two mgrm. In patient IV. no calming effect was produced, while in patient I. this effect was promptly obtained.

This brief clinical report, to which we do not deem it necessary to add any commentary, demonstrates the calmative and hypnotic effects of hyoscyamine and the utilization of this alkaloid especially in nervous affections.

---

*THE NEW CHILIAN DRUG "PICHI."**

By Henry H. Rusby, M.D.

ENGAGED in the investigation of the native remedies of South America, I reached Chili just when the excitement concerning this shrub, the *Fabiana imbricata* of Ruiz and Pavon, was at its height. As the drug, whatever may be the final decision concerning its merits, is certain to attract considerable attention in the immediate future, quantities having been sent to the United States, England, Germany, and France for investigation, I have thought well to depart from my rule of reserving the publication of notes until my return, and to present a brief sketch of the drug at the present time.

The early history of the drug presents very little that is novel. It has the usual origin among the aborigines,—the account of the immortal and ubiquitous old woman and her patient who had been "given up by all the physicians," with a fair average of thrilling stories of impossible cures. The first story that I heard concerning it was of its having dissolved and carried off a cystic calculus of great size which various eminent surgeons had failed to remove. After listening to a number of similar histories, with a few accounts of what really seemed to be beneficial effects of the use of the drug, and finding that not only the people were using it, but that physicians were prescribing it, I began myself to take an interest in the plant. I called on Dr. Manuel S. Ramires, an accomplished physician of Valparaiso, well known in connection with Chili's plundering expedition against Peru, and who I was sure would be able to give me a pretty correct estimate of the value of pichi. From him I learned that a very well known Chilian gentleman had been suffering from a disease which had been repeatedly diagnosed as "gravel," and that after continued treatment he had grown so much worse that he was at length really despaired of by his medical attendants. He at length yielded to the persuasions of his friends and began using the pichi, whereupon a profuse diuresis set in, and he was soon relieved of his troublesome deposits. As usual, out of pure philanthropy, he published an account of his recovery, which he attributed wholly to pichi. Being a gentleman of great influence, his story had awakened the interest which has now become an excitement, and still continues to grow. Dr. Ramires had bestowed considerable therapeutic study upon the drug, and had gained a pretty definite idea of its range of application. He found that a patient suffering from chronic renal congestion was very satisfactorily relieved by it, while another, a girl of 15, suffering from albuminuria, with casts, a sequela of typhoid fever, had been rendered markedly worse, the albumen increasing until it had formed the principal portion of the urine. On the discontinuance of this drug, the albumen began gradually to disappear, and the patient at length entirely recovered. These results were the types of others that followed. The doctor had decided that pichi was contraindicated where there existed any degeneration of the kidney, but was indicated up to that point, the benefit being marked in cases of catarrhal inflammation. He considered its action in restoring impaired digestive power as of even more importance than its diuretic power, and stated that it had acted in his hands as a marked hepatic stimulant, though he was not sure but this action was secondary and incidental to the improvement of the digestion.

* Pee'chee.

These facts being learned, the locality of the plant was visited, photographs taken, specimens made, and a quantity collected for investigation. Although (June 1) the flowering season was past, a few late blossoms were found, and a botanical analysis showed the plant to be *Fabiana imbricata*, R. & P., as above stated. Finding the drug thus in the excellent company of atropa duboisia, and capsicum, and still nearer to nicotiana, added not a little to the interest with which I took up its study; for while at war with the classifying cranks, I have a high appreciation of an intelligent and moderate classification of remedies with reference to their botanical relationship. I give a brief description of the plant taken from my own specimens.

It is in the natural order *Solanaceæ*, suborder *Curvembriæ*, and tribe *Nicotianeæ*. The calyx is free, but closely investing the ovary, to which it adheres by the resinous matter with which the plant abounds, green, becoming yellowish, thick and glandular, short and open bell-shaped, the fine oblong and obtuse lobes one-half as long as the tube, broadly and bluntly carinate, and appearing white-margined by the circle of white resin-glands which surround the corolla at this point. The white, nerved, withering, persistent corolla, together with the ovary, borne on an orange-colored disk, one-half inch long, and four times the length of the calyx, closely investing the ovary, and narrowly contracted above it, the remaining portion being funnel-form, with somewhat contracted mouth, and having fine, short, semicircular lobes. Stamens five, unequal, included, the thread-shaped filaments inserted into the corolla-tube at its constricted portion. Anthers short, two-celled, opening longitudinally. Pistil bicarpellary, the edges of the carpels turned in to meet a central column which bears the numerous pendulous ovules. Style slender, equalling the corolla, and bearing a slightly two-lobed stigma. Fruit an oblong-ovoid, light brown, crustaceous capsule, two and a half lines long, opening by the separation of the carpels from the central column, and from one another, and by the splitting in two of the carpels at their upper portion. Seeds about four, one-half a line long, flattened, oblong, brown, with a slight tubercular, roughened, crustaceous testa, the embryo curved, with fleshy albumen. The minute branchlets densely crowded, and terminated in the second year by the solitary flower. The broadly ovate, barely-pointed, thick leaves, a line long, closely imbricated upon these branchlets, their bases and margins whitened with the resinous deposit.

The general appearance of the shrub is striking, and it would attract the attention of any one interested in observing plants, while a closer examination would be certain to suggest the possibility of medicinal properties. Growing upon high, dry hill-tops, where there is a somewhat sparse vegetation, its plume-like sprays, with their peculiar light bluish-green color, present a rather pretty appearance against the sky, although the shrub is somewhat straggling; more so here than in the South, where it becomes a small tree. Seeing one of these sprays without flowers for the first time, it is hard to realize that it is not a conifer, and seems almost incredible that it is in the tobacco family. Handling it, I was astonished by the great amount of resin with which all of its tender parts are covered, this coating, perfectly impervious to water, being an admirable provision of the plant against the loss of its small supply of water during the long drouths of this region. This bluish or greenish-gray resin is the striking peculiarity of the plant, appealing to the senses of sight, touch, taste, and smell. Much of it is quite dry and brittle, and forms a grayish powder in the bottom of the mortar when the drug is pounded. It exists to some extent in the wood of some of the smaller branches, and is traceable even in the older wood. The wood has a uniform yellowish-white color, and is heavy, moderately hard, and fine-grained. The bark, abounding in resin, is of a perfect ashen gray, and finely roughened by minute, short, sharp, thickly-set longitudinal ridges, and minute gland-like protuberances, both of which exhibit, under the lens, a peculiar resinous lustre. The plant was examined chemically, so far as my limited facilities would permit, as follows:

A portion of the tops were pounded in a mortar as fine as their sticky nature would permit, placed in a vial and covered with ether, and a few drops of ammonia added. The fluid at once assumed a brownish-white turbidity, which disappeared on the addition of alcohol. After standing for sixteen hours the fluid was decanted into two evaporating-dishes and a little water added. The one fluid was slightly acidulated with sulphuric acid, while to the other a drop or two of ammonia was added. On the evaporation of the ether a thick scum had formed on both fluids, having the consistency of a soft gum, a greenish color, a somewhat bitter and resinous taste, and the characteristic odor of the

plant. The fluid was filtered perfectly clear. The alkaline solution was first studied. It was extremely bitter, possessed the same odor as the resin, and a slight brownish tint, which was considerably deepened as ammonia was added. In addition to this it possessed a blue fluorescence, which was also greatly deepened by the addition of ammonia. This fluorescence is remarkably strong. Two drachms of water to which two drops of the solution had been added was poured from a test-tube and the tube filled with water, when the fluorescence was still plainly visible. The fluid was tested with the following reagents:

Picric acid, no change.

Tannic acid, no change.

Co. tr. iod., no change.

Mayer's reagent, no change.

It was then slightly acidulated with sulphuric acid, when the brown color was replaced by a very faint pink tinge. Being again tested, the tannic and picric acids still failed to produce any change. On the addition of Mayer's reagent the fluorescence at once disappeared, but without perceptible precipitation. The co. tr. iod. threw down a slight brown precipitate. An extract similarly prepared, but in which the extractive fluid contained much more ammonia, was of a dark wine color, and yielded to sulphuric acid a dense white precipitate, on the formation of which its red color disappeared. This precipitate was supposed to be a portion of the resin dissolved by the strongly-alkaline solution.

The second fluid (acid) was then studied. It was free from the brown tinge, but assumed it on the addition of ammonia. It possessed the fluorescence, but in a less degree, and this also was deepened by the addition of ammonia, but gradually lost it as it was acidulated. The taste and smell were the same as in the last solution. It was tested as follows:

Tannic acid, no change.

Picric acid, no change.

Mayer's reagent, the fluorescence at once completely disappeared without precipitation.

Co. tr. iod., an abundant precipitation took place, of a dark reddish-brown color.

In the other fluid referred to, which yielded a white precipitate to sulphuric acid, that precipitate being filtered out, this brown precipitate was also thrown down by the co. tr. iod.

The resin obtained on the evaporation of the ether is of a very dark green, becoming darker and brownish on exposure to the air. It is lighter than water, and heavier than alcohol. It burns readily in the open air, with a bright flame, a sputtering noise, and a scintillation of bright, explosive sparks. Heated in a test-tube it melts, and then passes off in dense, heavy, white fumes, which partly recondense on the sides of the tube. It is insoluble in cold water, slightly so in hot water, but by boiling a considerable portion can be dissolved.

Being boiled, it imparts strongly its fluorescence, which acts as in the solutions already described. It is somewhat soluble in strong alcohol, and perfectly so in ether, the solution becoming green, from the solution of the coloring-matter with it, and afterwards yellow. It is softened and taken up by ammonia, but the fluid has a yellowish-green turbidity. It is evident that this is a resin, and it is probably the source of the fluorescence.

A quantity of the tops were next boiled in pure water for half an hour, after which they were found to contain the resin in apparently undiminished quantity. The decoction, of a watery consistency, was transparent, of a rich, but light brown color, and possessed the bitter, peculiar taste of the plant, and an acid reaction. It shows none of the fluorescence, probably because it is masked by the brown color. It fails to respond to Mayer's test, but yields to the co. tr. iod. its precipitate much more abundantly than does the ethereal extract. Treated with ammonia, and afterwards with sulphuric acid, it yielded a very heavy white precipitate, probably resinous. This being filtered out, the fluid still yielded its percipitate to the co. tr. iod. On the addition of any excess of ammonia its color becomes much darker, and it fails to respond to the tannic or picric acid tests. On washing with ether, decanting the ether, adding water and evaporating the ether, the resulting fluid shows the fluorescence, but fails to yield any precipitate to the above reagents, but the fluid remaining after the decantation of the ether acted precisely as before. A fresh portion of the decoction being taken, ammonia added, and treated with sulphuric acid, yielded the same heavy white precipitate, but in much greater abundance. It also yielded its precipitate to the co. tr. iod. more abundantly than the ethereal solution. The tops from which this decoction was made were then treated with Prollin's fluid, when they yielded the supposed alkaloid in diminished quantity, but the resin in much greater abundance than when fresh.

A portion of wood was then shaved from a large trunk, care being taken to get none of the bark or liber. This was treated with

Prollin's fluid in the usual manner, but failed to yield anything except a slight fluorescence. A decoction of the same substance was then made, but this also failed to yield anything more than a fluorescence and a trace of resin. This decoction has no odor, and only a slight sweetish taste. Travelling about with pack-mules I was unable to carry an extensive laboratory, and my experiments were abandoned at this point.

I conclude that the characteristic odor of the plant, the fluorescence, and the white precipitate by sulphuric acid from an ammoniated solution, are due to the resin, while the precipitate by the co. tr. iod. from an acidulated solution, and the chief part of the bitter taste, are probably due to the presence of an unknown alkaloid. That these two principles accompany one another, and are found in all portions of the plant except the wood, and probably in the younger portions of this. That neither of these substances are injured by boiling, and that the best method to obtain them is to boil and extract from the decoction, and subsequently to extract from the remaining tops.

To which of these substances the therapeutic properties of the drug are due remains entirely for experiment to decide. The perplexing feature of the case is that a common method of using the drug here is to make a decoction of the wood, which assuredly contains no active principle; and we can only suppose that inasmuch as the wood of the smaller branches is used, a considerable portion of the bark gets in with it. In those cases where the wood is used, a large tumblerful of the decoction is swallowed several times a day, so that, withal, considerable portions of the active principles are ingested. It is worthy of note that these people, with their shallow brains and cowardly instincts, are certain to choose the easiest and least disagreeable course open to them, and they use the wood because, "Senor, the leaves, you observe, are very bitter, but not so the wood." Like many homœopathic patients, the prime consideration is a pleasant-tasting or tasteless substance, the question of benefit being entirely trivial.

It is to be hoped that our investigators will take up this study where I have been obliged to drop it, and not leave our knowledge and opinions concerning it to be imported from Europe. An abundance of material has been shipped home, and may be had by applying to Messrs. Parke, Davis & Co.

This paper would not be complete without reference to a fact concerning the use of this plant, which contains a suggestion so important as to merit careful investigation, slender as is the hope which attends it. The shepherds of Chili employ it largely in the sheep-disease known as "pirigüines," which we take to be related to, if not identical with, hydatids of the liver, and, as it is said to be very efficacious with these animals, it seems well worth while to test its power over the above disease in man.

THE INFLUENCE OF CASCARA SAGRADA ON THE DIGESTIVE SECRETIONS.

Cascara sagrada has been experimentally studied by Dr. M. Tschelzow (*Centralb. für die Gesammte Therapie*, August, 1885), who comes to the following conclusions:

First. Cascara sagrada is useless when a rapidly-acting cathartic is desired.

Second. It only acts as a cathartic when introduced into the stomach. When injected subcutaneously or directly into the blood-vessels it produces no evacuation of the bowels.

Third. Cascara sagrada does not increase the secretion of saliva.

Fourth. It produces an increase in the secretion of gastric juice, which continues even during digestion.

Fifth. It increases both the pancreatic and biliary secretions.

These results were obtained when the drug was directly introduced into the stomach. When injected into the circulation, the animals rapidly passed into a condition of collapse, which soon proved fatal, or they recovered but very slowly; while the blood-pressure was rapidly reduced, even after previous section of the pneumogastrics.

TREATMENT OF ACUTE RHEUMATISM.

Dr. R. H. Fox states in the *British Med. Journ.*, October 10, 1885, that in a severe case of rheumatism in which salicylate of sodium, potassium, quinine, colchicum, and liniments had all failed to relieve the fever and pain, the relief was immediate after sponging with cold water and quickly drying the skin afterward. Although this is no new treatment, it is one which requires some courage to practise, and yet may be well adapted to certain severe cases in which the salicylic remedies are ineffectual.

The Therapeutic Gazette

EDITED BY
HORATIO C. WOOD, M.D.,
AND
ROBERT MEADE SMITH, M.D.,
PHILADELPHIA.

DETROIT, MICH., Dec. 15, 1885.

GEO. S. DAVIS, Medical Publisher, Box 470.

SUBSCRIPTION RATES FOR 1885.

(Journal increased to 72 pages.)

THERAPEUTIC GAZETTE (postage included).....$2.00
THERAPEUTIC GAZETTE with MEDICAL AGE.... 2.50
THERAPEUTIC GAZETTE with DETROIT LANCET. 4.25
THERAPEUTIC GAZETTE with AGE and LANCET. 5.00

Foreign subscriptions may be ordered through our agent in England, Mr. H. K. Lewis, Medical Publisher and Bookseller, 136 Gower street, London. Price 10s. Remittances may be made either by Postal Order or Stamps.

Price to Foreign Subscribers direct (postage included) $2.50 (10 shillings). English postage stamps received on remittances.

Editorial communications should be addressed 1025 Chestnut Street, Philadelphia. Business communications should be addressed to the publisher.

Leading Articles.

CHRONIC LEAD-POISONING.

THE recognition of the ordinary forms of chronic lead poisoning is a matter of the greatest ease, but when the affection takes one of its larvated shapes it is very apt to escape notice, and to seriously compromise the life of the patient. It has been believed that the diagnosis could be always made by an examination of the gums, the existence or non-existence of the blue line at the junction of the gums and the teeth being, according to almost universal credence, absolutely diagnostic. It would seem, however, that this is not the case. The presence of the blue line may be considered as pathognomonic, but its absence is of less import. In 1883, Dr. J. J. Putnam, of Boston, reported to the American Neurological Association several cases of obscure nervous disease which he believed to have been instances of chronic lead-poisoning, but in which no blue line could be found in the mouth. The diagnosis of these cases was made out by an examination of the urine, in which fluid lead was found. A group of similar cases has recently occurred in this city, in which the illness has lasted for years, under the care of one of our most skilful practitioners, without much relief until, from some reason to us unknown, lead-poisoning was suspected, when the drinking-water and urine of the patient were found to contain an abundance of the metal. The determination of the true character of such cases is difficult.

The difficulty is increased by the fact that sometimes lead-poisoning closely simulates well-recognized types of nervous affections. There is one form of the poisoning of which we have seen several very distinct cases that might very readily be mistaken for acute poliomyelitis. There has been the same rapid loss of power, with great wasting of the muscular structure, and rapid development of the so-called reactions of degeneration. The only peculiarities which should arrest attention in these cases are their occurrence in adults, the widespread character of the anatomical alterations, almost the whole body being more or less involved, and especially the implication of the bladder. It must also be remembered that there is a plumbic albuminuria, the occurrence of which is not so rare but that we have seen several instances within a few years. Saturnine gout is much dwelt on by some foreign writers, but is very infrequent in this country. Recently, however, there has been a man in the Philadelphia Hospital in whom a most severe attack of apparently lithæmic podalgia was really due to lead-poisoning. Some years ago there were at the Pennsylvania Hospital several cases of plumbic cerebritis, and it would seem as though saturnine poisoning almost rivals hysteria in the multitude of its symptoms and of its simulations. The destruction of our confidence in the blue line upon the gums certainly brings with it great diagnostic fears, and it would appear that safety is to be found only in the habitual examination of the urine for lead in cases of protracted disease whose type does not conform to that of any known affection. As the quantity of the lead in the urine may be small, several quarts of the liquid should be boiled down to a small bulk before testing. Probably the easiest method of making the test is to concentrate the liquid until it becomes semi-solid, add nitric acid and boil until solution and complete decoloration occur, and then pass sulphuretted hydrogen through. Even a very minute quantity of the lead would thus become immediately apparent by the appearance of the dark precipitate of the sulphide.

DR. NEALE'S MODIFICATION OF DR. FELSENREICH'S MODIFICATION OF PROFESSOR ALEXANDER SIMPSON'S AXIS-TRACTION FORCEPS.

DR. L. E. NEALE, of Baltimore, publishes a paper entitled "An Obstetric Forceps" in the September number of the *American Journal of Obstetrics*. He says,—

"The construction of this instrument is based upon the following premises:

"1st. No obstetrical forceps has so well stood the crucial test of experience, is as generally employed abroad, or is growing as much in professional favor at home up to the present period as the Simpson.

"2d. The Tarnier principle of axis-traction is the 'most important modification of the forceps that has been devised within the past quarter of a century,' and this principle is especially applicable to the fœtal head impacted in the pelvic brim.

"3d. Certain objections, valid or not, such as unwieldiness, complexity, liability to lacerate the soft parts, the *apparent* necessity of having two instruments, a simple forceps for easy cases and the Tarnier for those more difficult, etc., have been urged against the latter forceps.

"For these reasons principally I have designed an instrument representing the Simpson forceps practically unaltered, capable of being combined at option with the Tarnier attachment."

The instrument described by Dr. Neale consists of the following parts:

I. A practically unaltered Simpson forceps.

II. Button-hole perforations, one behind each fenestra, into which traction-rods are inserted, and maintained by the buttons on the ends of the rods.

III. A removable compression thumb-screw, which sinks into a groove made in the extremities of the handles of the Simpson forceps.

IV. A hard-rubber handle for the traction-rods like Tarnier's, in which handle is concealed a sliding-bar, to be used at option, so as to render the swivel-joint immovable.

With the exception of the removable compression thumb-screw, the instrument thus described is a very perfect mechanical contrivance. With the exception of the part just mentioned, we fully agree with Dr. Neale in his *résumé* of the advantages of this forceps, as read before the Medico-Chirurgical Faculty of Maryland at its meeting in Baltimore, May, 1885.

But, with the exception of the trivial modification of the removable compression thumb-screw, the instrument has existed since 1881–82.

Professor Alexander Simpson, of Edinburgh, modified Tarnier's axis-traction forceps by the substitution of Sir James Y. Simpson's instrument for Levret's. He sent in 1880 a model to Professor Carl Braun, of Vienna. Simpson's modification was preferred in Vienna to Tarnier's most recent model, although, as is well known, axis-traction forceps are deemed entirely unnecessary by Professors Carl Braun, Josef Spaeth, and Gustav Braun. Dr. Felsenreich, at that time first assistant to Professor Carl Braun, modified the Alexander Simpson instrument by the addition of the button-hole joint and the corresponding change in the axis-traction rods. The compression-screw in the Felsenreich instrument, as in Alexander Simpson's, is located on the middle third of the superior surface of the handles,—a more advantageous position than at the extremities of the handles.

With characteristic modesty, Dr. Felsenreich has refrained from publishing a description of his instrument until all its faults have been demonstrated. The instrument, however, is used in the clinic, displayed in the courses on operative obstetrics, and is for sale by Mr. J. Treiter in Vienna.

Dr. Neale is disingenuous in his allusion to Dr. Felsenreich. He says, "The idea of its construction is not *entirely* original with me, as the button-hole joint for the traction-rods was first shown me by Dr. Felsenreich, first assistant to Prof. Carl Braun, of the Vienna clinic, in 1882." Dr. Neale saw both Prof. Alexander Simpson's and Dr. Felsenreich's instruments in active employment in Vienna. Dr. Neale is entitled solely to the honor of the addition of the removable compression thumb-screw; in our opinion a serious defect.

We are dealing with matters of fact, not matters of opinion. Dr. Neale's translation of Pinard's brochure on "Abdominal Palpation as applied to Obstetrics" has earned for him the well-deserved reputation of a zealous student of obstetrics. Dr. O. W. Holmes, in his famous address on "Mechanism in Thought and Morals," relates many interesting cases of the unconscious persistence of mental impressions through a considerable period of time. It is quite possible the error in the paper to which we have called attention is a case in point. Some years ago a Brazilian, who had been studying in Vienna, on his return home described as original, in a

South American medical journal, a very valuable surgical instrument, devised by one of his Viennese instructors. When informed of his mistake he at once suggested Dr. Holmes's explanation, and attempted to make prompt reparation.

THE PROPHYLACTIC TREATMENT OF HYDROPHOBIA.

IN the November number of the GAZETTE for 1884 an article was published in which the experiments of M. Pasteur on the prevention of hydrophobia were alluded to. These experiments were reported to the International Congress at Copenhagen of last year, and seemed to show that hydrophobia, by the system of inoculation which M. Pasteur had discovered, was capable of being prevented. Pasteur also claimed that not only might rabies be totally obliterated if this system of inoculation became general, but that it even held promise of preventing hydrophobia in persons bitten by mad dogs. Recently Pasteur announced to the Academy of Sciences of Paris that he had had an opportunity to test his method on a child who was bitten by an undoubtedly rabid dog. The patient was a young Alsatian, named Joseph Meister, aged 9 years, who, after being bitten by a mad dog in fourteen places, was brought to Pasteur from Alsace. His case was referred to Professor Vulpian and Dr. Grancher, and was considered by them as absolutely hopeless if left to itself. He was therefore placed in the hands of Pasteur, to be submitted to his process of inoculation. Sixty hours after the bites Pasteur inoculated him, and the inoculations were repeated twice a day for two weeks, with virus of successively increasing strength. Now nearly four months have elapsed, and no symptoms of hydrophobia have declared themselves. Pasteur has also had under treatment since October 2 a young shepherd, 15 years of age, who, on the 14th of the same month, was badly bitten on both hands by a mad dog. No symptoms of hydrophobia have yet declared themselves in either case.

Anxious as we are to accept the inference which seems warrantable from the details of these cases, it must nevertheless be remembered that the incubation period of true rabies is very variable, and not only that, but that many persons bitten by undoubtedly mad dogs, either through idiosyncrasy or some other cause, fail to develop hydrophobia. The reports of these cases to which we have had access state that the patients were given up by Professor Vulpian. We have not been able to understand, however, on what grounds, since it does not appear that the symptoms of hydrophobia had as yet developed themselves. It will be interesting to watch the progress of these two cases, and to hope the claims which Pasteur seems to have substantiated will prove to be based upon impregnable grounds.

To refresh the memory of our readers we will again give the method of inoculation employed by Pasteur. A healthy rabbit is inoculated, through an opening trephined through the dura mater, with the spinal cord removed from a rabid dog. Rabies always appears after about fifteen days' incubation.

A second rabbit is inoculated from the first, a third from the second, and so on through a series of inoculations. Rabies appears in each case after successive decrease of the periods of incubation, until finally the term of incubation is reduced to eight days. If the spinal cords of these rabbits which have died from hydrophobia are removed, and then suspended in dry air, the virulence gradually disappears, the time required depending on the size of the fragment or the temperature of the air; the lower the temperature the longer the virulence persists. The method of producing inoculation is this: to suspend in sterilized broth a portion of the cord which has been exposed sufficiently long to the air to become thoroughly inert; a portion of this broth is then injected under the skin; to this later an inoculation is made with another preparation, in which a slight degree of virulence is present; after this second inoculation is made with the stronger preparation, and so on every successive two days fresh inoculation, until finally a preparation is used which has only been dried one or two days previously. Animals thus treated are found to be exempt from rabies. Inoculation in them under the skin or on the cerebral surface by trephining with the rabies virus fails to produce any symptoms of the disease. Pasteur has already succeeded with fifty dogs in rendering them refractory to rabies. The cases which we have above alluded to seem to show that the method is applicable to man.

"ISOLATING MEDICATION."

THERE has just appeared in Paris a book by Chevalier Robert de Latour, entitled "*De la Chaleur Animale*," the bulk of whose six hundred pages is occupied with a discus-

sion of certain generally theoretical considerations or propositions concerning animal heat,—a discussion so wearisome in its prolixity that our patience was exhausted long before we had reached its end. In the closing portion of this book, however, there is proposed a system of treatment which seems to us worthy of being noticed. The method is applicable especially to superficial inflammations, but by its author is asserted to be of almost equal value in the treatment of such deep trunkal inflammations as peritonitis and pleurisy. The idea of the plan is the formation of an impervious coating upon the surface of the body over the seat of the inflammation, the theory being that such coating will check the processes of oxidation in the capillaries beneath it. Under many circumstances collodion suffices for the coating, but the form of the collodion should be that which is known in the United States Pharmacopœia as flexible collodion,—*i.e.*, that which contains castor oil. Ordinary collodion is too contractile and too brittle. For many purposes Dr. Latour prefers, even to flexible collodion, a preparation made according to the following formula:

Take of gelatin, white sugar, and gum arabic, each thirty parts (by weight), honey and glycerin each ten parts, and water one hundred and ninety parts. Make into a mixture; then boil this mixture with an equal part of water, when a very thick plastic mass is formed, which is to be spread over the surface.

Raw cotton and similar dressings to a certain extent act as impervious coatings, but they are much less efficient than either the collodion or the dressing just mentioned.

Among the diseases in which this method of treatment is especially praised by its author is orchitis. He affirms that a single dressing combined with the use of the suspensory bandage often suffices when the affection is acute, and even in the chronic form of the disorder the result is almost certain if the application be persisted in. The dressing must be renewed under these circumstances daily.

In erysipelas the results are stated to be most satisfactory, and cases are given of the most malignant type in which the effect of the application was immediate. In peritonitis the dressing is spread over the surface of the skin corresponding to the portion of the peritoneum affected, and is affirmed to act with a "marvellous promptitude." In rheumatism and in acute gout the author states that for forty years he has used the "isolating medication" without ever an accident, and with the utmost relief. He believes that under no circumstances is there any danger of its producing a metastasis. If this isolating coat (*enduit isolante*), as the author terms it, will perform only a small portion of the feats which are attributed to it, it is certainly an invaluable addition to our methods of treatment.

ACTION OF CANTHARIDES UPON THE KIDNEYS.

THE histological changes in the kidneys in poisoning by cantharides have recently been closely studied by Dr. E. Lahousse, of Antwerp, and are detailed in a pamphlet published at Brussels (A. Manceux, 1885). He finds that the poison attacks simultaneously the Malpighian bodies, the secreting tubules, and the interstitial tissue. The alterations of the stroma consist chiefly in the migration of leucocytes. The first changes in the Malpighian bodies are an intense hyperæmia with albuminous exudations, and the outwandering of leucocytes and of an occasional red blood-globule; next the epithelial cells of the vessels and of the capsule of Bowmann swell up and desquamate. A little later the endothelial cells of the vessels of the glomerule become swollen, and at last choke up the interior of the vessels. Sometimes in the final period there is a sort of shrinking of the glomerules, with hypertrophy of the capsule. When the poisoning is very intense there may be an immediate and complete necrosis, with desquamation of the cells of the uriniferous tubules; but usually the change is more gradual, the cells enlarge themselves, become full of albuminoid granulations, and change into irregular spheres, which die in the cavities of the tubes. Sometimes, however, the cells retain their general shape, but become much enlarged, and full of small vacuoles. Almost everywhere throughout the kidneys are to be found granules of hæmoglobin, which in the canals fuse together into brilliant red homogeneous cylinders, spangled with vacuoles. Besides these casts, hyaline and granular casts exist in abundance.

Dr. Lahousse has found that there is no change to be discovered in the blood of the poisoned rabbit, and even when blood is mixed with crystals of cantharides upon the stage of the microscope no alteration takes place in the red blood-disks. He believes, therefore, that the globules of hæmoglobin found in the kidneys depend entirely for their exist-

ence upon the local disease. These researches correspond as far as they go with the experiments of Aufrecht, except that they seem to indicate a more uniform series of phenomena than was found by the earlier investigator.

There is much in the pamphlet which we have been noticing that is of interest in connection with the study of renal affections as seen in man; but we must content ourselves with referring those interested to the brochure itself for these points.

EFFECTS OF COCAINE AND ITS SUBSTITUTES ON THE VASCULAR SYSTEM.

THE important and no doubt stable rank which cocaine has secured through its unrivalled analgesic and reflex inhibitory virtues in therapeutics calls for a thorough experimental examination of the physiological action of the alkaloid on the entire economy. In spite of the extensive literature of cocaine, we find but few observations as to its direct action on the circulatory apparatus, and those in existence appear too scanty and superficial to claim our confidence. Examining the principal pertinent researches, we find the invariable assertion that cocaine produces an anæmia of the mucous membranes. Anrep (*Pflüger's Arch. f. d. g. Phys.*, 1880, vol. xxi.) says, "Doses of a moderate size cause a great contraction of the peripheral arteries, those of the tongue and web decreasing to one-half of their former lumen; this contraction often lasts for several hours." Roller (*Wien. Med. Woch.*, 1884, pp. 43–44) refers likewise to the ischæmia of the conjunctiva produced by cocaine, but does not state its duration. Heymann (*Berl. Klin. Woch.*, No. 4, 1885), though admitting that cocaine produces an anæmic condition of the mucous membranes, dwells particularly on the rapid return of the blood-current to the locality rendered anæmic by cocaine. Other observers have come, however, to very different conclusions, and, of course, left this important question practically unsettled. It is therefore a matter of special interest to note the very latest publication on the subject, the inaugural essay of Krüger (Berlin, October 26, 1885), which we present to our readers hereby in a condensed form.

Krüger used as an experimental animal the frog, and following the instructions of the late Cohnheim,* made his researches on the tongue. The vessels of the tongue were drawn by means of a camera lucida and then measured. The stated measures refer to a magnification of forty times, and are expressed in millimetres. Having repeatedly observed the ischæmizing effect of twenty per cent. solutions of cocaine as used for the nose, and of two per cent. solutions as used for the eye, Krüger naturally expected to find a similar result of the alkaloid on the frog's tongue. This, however, was not the case, as a distinct vascular dilatation was the invariable effect observed. This dilatation was equally noticeable in arteries, veins, and capillaries; the velocity of the blood-current of course was decreased in the dilated vessels. If a cocaine salt is applied to a vessel, be it an artery or a vein, a distinct dilatation is at once noticed, which reaches as far as the influence of the alkaloid. If a drop of a solution of cocaine is placed on the frog's tongue, vessels are seen to appear on places in which there were none previously, and again the vessels which were visible previously become visibly enlarged. A frog's tongue can, consequently, by a cocaine application be rendered erythematous.† This phenomenon of dilatation was most conspicuous and permanent when cocaine was employed in substance; still, even in solutions of one per cent. and one-half per cent. the vascular dilatation could not be mistaken. As Anrep had previously shown that small doses of cocaine proved excitants, large doses, however, paralyzants for the central nervous system, Krüger suspected a similar occurrence respecting the vascular system, and made further researches with greatly reduced doses of cocaine. But even in solution of a strength of 1 to 1000 the phenomenon of dilatation appeared essentially unaltered. It must hence be regarded as proven that cocaine both in substance and in solution exerts a paralyzing influence over the nervi vasorum,—*i.e.*, the contractile elements of the vascular walls themselves.

Both duration and intensity of the cocaine-influence are found to correspond to the employed strength or degree of concentration of the drug. If the pure alkaloid was applied to an artery the dilatation appeared instantaneously, and reached its maximum within five to six minutes; then the vessel began again to contract, attaining its prior normal lumen after four to five minutes. This, however, strangely did not terminate the lumen-alter-

* Cohnheim on the embolic processes; the frog is placed on a glass plate, and the under surface of the tongue exposed and fixed with needles.

† This interesting feature of the effect of cocaine suggests the utility of the drug for purposes of demonstration of the circulatory apparatus.

ations of the vessel; a contraction now ensued which disappeared only after five minutes, so that twenty minutes after the beginning of the experiment the artery had regained permanently its former size. An artery measuring originally 2.3μ. attained in the stage of greatest dilatation a lumen of 5.2μ, and during its greatest contraction 1.8μ. Cocaine, then, is capable to increase the lumen of an artery to more than double of its original status.

Employing a two per cent. solution, the same effects, though of lesser duration, were obtained. The dilatation set in equally suddenly, reaching its maximum in five minutes; then the contraction appeared, reaching its maximum ten minutes after beginning of the experiment, and regaining, after six more minutes, its original size. An artery of 4.4μ measured 6μ. when dilated, and 3.8μ. when contracted.

In a one-half per cent. solution the stated appearances took a much quicker course; in two minutes the vessel showed its maximum dilatation, in four more minutes its greatest contraction, and nine minutes after beginning of the experiment its original lumen. The original size was 2μ, its maximum dilatation 3.4μ, and its maximum contraction 1.6μ.

A solution of 1 to 1000 caused a dilatation, which, however, did not appear so quickly as in the case of the stronger solutions. The artery contracted again after two minutes, reaching its greatest contraction after two more minutes; three minutes later it had regained its prior size. The respective measures in the normal, dilated, and contracted state were 2, 2.9, and 1.6μ.

These results being wholly different from those obtained by other observers, Krüger felt the necessity of confirming them by a control experiment, as it was at least possible that the curare, which he had invariably applied, had something to do with the observed vascular dilatation. But even when using injections of ether the same results were obtained with the same precision.

It remained now to determine whether this action of cocaine depended upon its influence on the sympathetic nerves or simply upon the muscular elements of the vascular walls. For this purpose Krüger injected cocaine under the skin of the abdomen. An injection of 0.001 ($\frac{1}{1000}$ gr.) produced a very temporary contraction of all arteries of the tongue, their dilatation beginning after ten minutes. This stage of dilatation lasted for forty-five minutes, then contraction again set in gradually until the original size was regained. The respective measures were 2.8, 1.6, 3.4, 2.8μ. A dose of 0.005 ($\frac{5}{1000}$ gr.) caused likewise a contraction (from 3.3 to 1.7) which lasted only seven minutes. Eight minutes later all vessels had resumed their former lumen. Then the dilatation proceeded still further (to 4.2), and lasted very long. The contraction did not set in before one and a half hours.

As these experiments show that even the hypodermic application of cocaine affects very distant vessels, it is evident that this action is only possible through the intervention of the vaso-motoric centre in the medulla oblongata. These researches go to show, at the same time, that the influence of cocaine on the vaso-motoric centre consists first in an excitation, and at a longer duration of the influence, or if larger doses are employed, in its paralyzation. Hence we must conclude that the local application of cocaine affects the sympathetic nerves, and not the muscular elements of the vascular walls.

The fact that subcutaneous injections of cocaine produced a stage of vascular contraction induced Krüger to repeat the local applications with very weak solutions, such as 1 to 10,000, or 1 to 20,000. He observed always a great contraction (3.5 to 2.5 or 3.8 to 2.4μ), lasting from six to twenty-five minutes.

Comparing both series of experiments,—the local and hypodermic ones,—we find that the results agree perfectly with each other. In the local application we find only a shorter duration of all phenomena. The effect of cocaine on the sympathetic nerves is hence the same as that on the entire central nervous system,—exciting in smaller doses and paralyzing in larger ones, as held previously by Anrep. There is certainly an obvious contradiction between the well-known fact that cocaine, when applied to the eye of warm-blooded animals,—a rabbit, for instance,—or even to man, produces a local anæmia (well marked on the conjunctiva), and the vascular dilatation as observed by Krüger on the frog's tongue. Anrep regards cold-blooded animals much more sensitive to the action of cocaine than warm-blooded ones. This might serve to explain the stated discrepancy. A dose which in man has no or little effect must in a frog be regarded as a large one. In frogs, for instance, the fatal dose is 0.04 ($\frac{6}{100}$ gr.), while Frohnmüller gave patients 0.35 (5 grs.) without seeing any material effect.

The researches of Krüger on the effects of menthol and caffeine, the principal substitutes of cocaine, deserve likewise our attention. If a particle of menthol was placed upon an

artery a distinct dilatation resulted, though less suddenly than in the case of cocaine. The dilatation lasted as long as the drug remained *in situ*. After the menthol had been either removed or absorbed the vessel gradually contracted again. Of greater and more practical interest to the therapeutist are, of course, the experiments made with caffeine, in the form of the citrate in substance and solution. If the alkaloid was applied to a vessel in substance, a dilatation appeared, which lasted longer than that caused by cocaine, but not so long as that produced by menthol. This evidently depends upon the fact that caffeine is more readily soluble in the mucus of the tongue than menthol, but less so than cocaine. The dilatation besides did not appear so suddenly as in the case of cocaine, and is less pronounced than in the case of either cocaine or menthol. An artery measuring 3 attained a lumen of but 4.3μ.

Employing a two per cent. solution a dilatation was likewise observed. The maximum was reached in seven minutes; then a contraction ensued, lasting for forty minutes. The maximum contraction lasted one-quarter of an hour; then the artery dilated again, and attained after half an hour its original size. The obtained measures in the various stages were 2.4, 3.8, and 1.4μ.

In a solution of 1 to 100 a dilatation occurred from 2.8 to 3.8μ, then a contraction to 1.6, lasting for forty minutes. A solution of 1 to 5000 caused a weak contraction (from 3.5 to 2.8), lasting ten minutes. Weaker solutions of caffeine do not affect the vessels at all. If the contraction of a vessel has been secured by a solution of 1 to 1000, and a cocaine solution of 1 to 1000 is applied to the contracted place, little or no dilatation is observed. If the dilatation has been secured by a two per cent. solution of caffeine, and then a two per cent. of cocaine be applied, an additional dilatation sets in. If an artery has become dilated by the influence of cocaine, and a cocaine crystal be placed on the vessel, a distinct enlargement appears. These experiments demonstrate that caffeine alone is not capable of producing the greatest enlargement of a vessel.

After the injection of 0.005 ($\frac{75}{1000}$ gr.) of caffeine, Krüger noted the following conditions: A few minutes after the injection a considerable contraction (from 3.8 to 1.9) sets in, which lasts three-quarters of an hour. After one and a half hours the vessels regained their prior lumen. This contraction is reducible by an injection of 0.005 of cocaine.

Reviewing the comparative action of cocaine, methol, and caffeine, we arrive at the following conclusions: Cocaine acts most decidedly on the vessels, caffeine least so. Employed externally, all three substances affect the nerves of the blood-vessels in the same manner, viz., as excitants in small doses, and as paralyzants in larger ones. Cocaine, in a solution of 1 to 1000, dilates the vessels; caffeine, however, in an equal dose, contracts them.

TREATMENT OF ANGINA PECTORIS.

IT is a well-known fact that all remedies which have hitherto been exhibited against the paroxysmal affection termed angina pectoris have been, generally speaking, failures, and that nearly all patients subject to these attacks have to succumb early to the progress of the disease. Even the latest approved treatment of angina with nitrite of amyl, nitrite of sodium, and nitroglycerin, as discussed some months ago in the GAZETTE, will but rarely, and under certain conditions only, cure or alleviate the affection. Huchard, the famous clinician of the Bichat Hospital of Paris, has recently published a valuable essay (*Journal de Médecine*, No. 3, 1885) which throws an entirely new light upon the pathological agents of the affection and offers important therapeutic suggestions.

A large number of autopsies (thirty-five) convinced the author that the ancient pathological views held respecting angina pectoris, as taught as early as 1799 by Jenner and Parry, were fully correct, viz., that the anginal paroxysm is the result not of a neuropathic condition but of an arterial affection. In every instance where post-mortem examinations were made Huchard found ossification, and occasionally even obliteration, of the coronary arteries, conditions which naturally lead to cardiac ischæmia. Again, numerous cases were observed by Huchard and other clinicians in which a well-established cardiac neuritis was wholly disconnected from any anginal symptoms.

These observations showed the uselessness of resorting in angina pectoris to remedies which simply act upon the nervous system. The bromides, Huchard says, have never cured a case of angina pectoris save the so-called false anginas, which, among other clinical characteristics, have the peculiarity of being cured by the suppression of the numerous causes productive of them and of fre-

quently disappearing spontaneously without any medication. The cases of genuine angina pectoris belong to the most serious of pathological conditions known, and almost invariably terminate fatally. Hence in any clinical statistics concerning the curability of angina the genuine and false cases are to be strictly separated.

Huchard by his novel treatment, based upon his undoubtedly correct pathological views, records a greater number of cures of true angina than any other clinician has ever obtained previously (twenty cures). His treatment consists principally in the exhibition of iodides, which, as is well known, are alone able to cure the affections of the arterial system, even those of a non-syphilitic nature. The iodide of potassium or, better, of sodium, given without intermission for months, and even years, in a daily dose of 1 to 2 grammes (15 to 30 grs.), will with certainty at first diminish the frequency and intensity of the anginal paroxysms, and finally bring about their definite and complete disappearance.

The curative effects of the iodides of sodium and potassium in aneurism of the aorta and various other arterial affections show the powerful influence of the iodine treatment on pathological conditions of the vascular apparatus.

In aortitis, both of the acute and chronic type, we find most frequently dilatation of the aorta and elevation of the subclavian artery. Under the influence of the iodine treatment both symptoms can be relieved promptly and permanently.

The most refractory cases in regard to this treatment are those in which the aortitis and the arterio-sclerosis approach their termination, for the iodides, however powerful they are, cannot suppress an arterial atheroma. In general, it can be said with propriety that "the iodides are the digitalis of the arteries." Huchard's routine formula is,—

℞ Sodii iodidi, gr. cl;
Aquæ destil., ʒl.
Fiat sol.

S.—Two to four teaspoonfuls daily, to be taken in a cup of tea.

THE UTILIZATION OF CONDEMNED CRIMINALS FOR CHOLERA EXPERIMENTS.

THERE is a well-known old proverb that familiarity begets contempt, and probably perpetual contact with the immense overflowing mass of humanity which peoples many portions of India has its influence with all who come within its scope. The ease with which human life is sacrificed in Hindoostan, the fact that the rise of a cent or two in the price of rice means death from starvation to thousands upon thousands of people, the yearly holocaust to wild beasts and more dangerous serpents, and even the little pecuniary value of human time is of great influence and may in some measure account for that outspoken favor with which the use of condemned criminals for experiments seems to be viewed in that far-off land. We must confess that from a scientific, as well as from an utilitarian point of view those who demand the utilization of these condemned criminals have the best of the argument, but we would ourselves hardly like to be the physician who inflicts the fatal wound.

There can be no doubt that the most important triumphs in medicine in the last few years have been obtained through the active prosecution of experimental pathology, and that a very positive limit is put to this class of research by the fact that the large proportion of human diseases are incapable of transmission from man to the lower animals. Unless the human disease is capable of affecting some lower animal, experimental investigation is barred, or can only hope of success by inoculation upon human beings. The serious proposal to employ human beings for experiments upon cholera was made by Surgeon-General Cornish in his address published in the June number of the *Indian Medical Gazette*, and has received active support from Surgeon-General Moore, C.I.E., and from the editorial staff of that journal. The following extract from the editorial of the *Indian Medical Gazette* for September seems to us worthy of being here reprinted. We recommend its consideration to our anti-vivisection friends or enemies, and acknowledge a little curiosity as to how they will view it.

"The suggestion has no element of cruelty about it, for it gives to a few condemned criminals a chance of surviving otherwise unattainable, and only willing candidates would be allowed to become the subjects of scientific observation. From recent statistics it would appear that from three hundred to four hundred persons in provinces subordinate to the government of India are judicially sentenced to suffer death every year. It may be stated that, taking one year with another, not a day passes without the execution of one individual. Their lives are justly forfeited to

the State, and the State, except in special circumstances, exacts the extreme penalty of the law. Now," says Dr. Cornish, "could it not be arranged that a small portion of the annual victims of the hangman might be spared the final execution of the judicial sentence on something like these conditions: First, that they should declare their willingness (after due warning of the danger likely to be incurred) to submit themselves to scientific experimentation in reference to the artificial production of cholera; and, second, that, surviving such experimentation, their lives should be spared, either in confinement or otherwise, as the State was pleased to direct? From what we know of human nature it seems to me there would be no lack of candidates willing to incur any risk in the hope of prolonging life, otherwise destined to speedy extinction; and the important questions at stake, which influence our commerce, our laws, and relations with other nations, might be answered once for all if the government of India could see its way to the devotion of a few lives, now absolutely wasted, to a useful and beneficent purpose.

"An *international* commission of experts might be appointed to determine upon the experimental tests needed to ascertain whether cholera is or is not a disease capable of being communicated from person to person; and the Indian or any other government which had the courage (undismayed by humanitarian howls) to place at the disposal of such a commission the lives of condemned criminals, already forfeited to the State, and willing to undergo the risks which such experimentations might involve, would do more in the space of a few months to help forward the inquiry into the nature of cholera than has been accomplished by indirect observation during the last century.

"This is the straightforward, practical, and scientific, as it is the sole satisfactory, way of attacking the question. And it is earnestly to be hoped that the government of India, disregarding all the outcry which is sure to be raised by sham sentimentalists of the Exeter-Hall type, will, in the best interests of humanity at large, arrange without delay to carry into execution this truly unobjectionable measure, which is calculated to reach the truth regarding so terrible a malady,—a measure which will accomplish what indirect observation never possibly can accomplish; for it is only by direct experiment upon man, and upon man alone, that the question of contagion can be finally solved."

GONORRHŒAL RHEUMATISM.

WE do not think there is any doubt as to the efficiency of salicylic acid and its compounds in all forms of acute and subacute rheumatism, even in that variety of so-called muscular rheumatism which relates itself closely to gout, and is especially seen in those whose ancestral tree bears gouty fruit. The disease known as gonorrhœal rheumatism is probably not rheumatism at all, but is a result of pyæmic poison, or at least is a toxæmic inflammation which is allied to septicæmia. It is therefore not to be expected that the salicylates would be of value in this disease. In a series of papers in late numbers of the Edinburgh *Medical Journal*, already alluded to in the GAZETTE, Prof. T. R. Fraser has shown that this *a priori* reasoning is sustained by clinical experience, and records six cases of acute so-called gonorrhœal rheumatism in which the salicylate of sodium was used freely without success. If, as is believed by Dr. Fraser, this so-called gonorrhœal rheumatism may be produced by non-specific, vaginal, and uterine discharges, its alliance to septicæmia is even closer than we had supposed.

An important observation is made by Dr. Fraser, that the intolerance of the salicylates occasionally met with in patients is often, if not always, due to disease or functional disturbance of the kidneys.

THE METRIC SYSTEM.

AMONG the most enthusiastic of the advocates of the use of the metric system in pharmacy in this country has been Mr. Oscar Oldberg, and we confess it is with some astonishment that we have read in the *Pharmacist* for October, 1885, an elaborate article by this gentleman recanting what he has said in favor of the metric system, and expatiating quite eloquently over the superiority of our American apothecaries' weight and measure. We, ourselves, do not believe that the metric system is superior in practical medicine and pharmacy to the one now in vogue, and do not believe that it will ever be adopted in the United States. It was the shibboleth to which the United States Pharmacopœia of 1880 was practically sacrificed; the effort to force the dispensing of medicine by parts in weight being, in our opinion, the reason that only a little over six thousand copies of the Pharmacopœia has been sold, although in accordance

with the terms of the copyright the committee has received payment on about eleven thousand. As Mr. Oldberg says, the *drop*, no matter how variable it is, remains practically the measure of dose in the sick-room, and the minim is so near the drop that it is a very useful unit. It is often forgotten that the gramme and cubic centimetre are not absolutely commensurable at ordinary temperatures. One cubic centimetre of water weighs one gramme when at the unusual temperature of 4° C. and in vacuum, whilst the litre of water at the ordinary temperature of our work-rooms is not a thousand grammes, as commonly counted, but only about 997.4 grammes. On the score of accuracy, then, we do not see that the metric system has practical advantage, whilst the danger of mistakes in prescriptions is enormously increased by its use. The simple displacement of a dot alters entirely the amount of the poison ordered. Mr. Oldberg proposes certain changes in our present weights and measures, which changes we do not believe will ever be made. The inertia of fifty million of people is almost immeasurable ; except by the aggressive force of an active despotism it is scarcely to be overcome, and we predict that that which is, will remain.

CHICAGO AS A CHOLERA CENTRE.

IF the statements of Prof. R. J. Curtiss even approximate the truth, the heart of the citizen of Chicago must swell with just pride. As everybody knows, such typical inhabitant desires above all things on earth that his city shall be foremost—whether in evil or in good ; his prayer is only that Chicago be foremost. Prof. Curtiss states that the method which has been adopted of disposal of Chicago sewage has created the "largest cesspool on earth ;" a cesspool which includes in its influence nearly one-third of the population of the State of Illinois. It appears that the plan adopted is to pump the sewage into the Illinois River through the canal, which canal is also connected with the Des Plaines and Chicago Rivers, which in turn empty into Lake Michigan. The canal which carries the sewage into the Illinois River is not large enough to afford free passage, but does carry sufficient putrefying débris to make the canal and the Illinois River a terrible nuisance for many miles, whilst, when the wind is southwest, the sewage is driven in abundance clear out to the "crib" in the lake,—*i.e.*, to the point where the city water-supply is taken,—so that the citizen has the pleasure of drinking the remains of his last week's dinner.

If Mr. Smith, with the cholera germ at work in his vitals, ever reaches Chicago, it is plain that after Smith has passed away from things of this earth, the microbe reaching the Chicago River on the one side will come back to the city through the water-pipes, and "by a mysterious dispensation of Providence" the plague scenes of Spain and Italy will be enacted ; whilst, on the other hand, the microbe passing out into the Illinois River will leave a black track of death behind it through the State and spread little by little its fatal influence over that whole region.

There seems to be but one way of disposing of the sewage of an inland city like Chicago, namely, by the "sewage farm system." Spread over one or two thousand acres, the excrement and offal of Chicago could be turned into good beef, excellent bread, and scurvy-destroying vegetables. It is stated that a hundred thousand dollars have been appropriated by the city councils of Chicago for the purpose of improving the sanitary condition of the city, and that thirty-four sanitary inspectors have been appointed and have already visited the greater part of the houses of the city. It would seem as though this money had been much more wisely devoted to beginning the reform of sewage disposal.

THE TRIGEMINAL COUGH.

THIS peculiar term, introduced by Schadewald, signifies the cough which in perfectly normal conditions of the larynx and lungs persists with the greatest constancy day and night, being caused by the slightest temperature changes and in presence of penetrating odors. Sneezing and snuffling are the constant attendants of this trigeminal cough, which can even be artificially produced by gently tickling the nares. The patient will at once be forced to cough violently, and will recognize the cough as identical to the one which usually torments him. The frequently occurring cases of persistent coughing without any traceable implication of larynx and lungs, which can be readily provoked by touching the termination of the trigeminus, are all to be regarded as pertaining to the trigeminal cough. The paroxysm of the trigeminal cough has a striking resemblance to the purely nervous asthmatic attack, beginning and ending with a paroxysmal cough.

Still, in the asthmatic paroxysm we find a different acme as to duration and mode of respiration. In the October issue of *Schmidt's Jahrbücher* we find some interesting remarks on this subject which invite our attention.

Wille regards the purely nervous asthma as a simple reflex neurosis of the trigeminus in its nasal branches, and, according to his observations, we find the nervous asthma always accompanied by a trigeminal cough. Hence many cases of asthma can be and have been cured by cauterization of the nasal mucous membrane. The trigeminal cough can be divided into a nasal, a pharyngeal, and an auricular one. The cough which sets in if the external auditory meatus is being cleansed or irritated, is by no means a vagus cough, as has been assumed before; for the anterior portion of the meatus is not supplied by the vagus, but by the auriculo-temporal branch of the infra-maxillaris, hence by a subdivision of the trigeminus. This cough, therefore, is to be regarded as a typical trigeminal cough.

The nasal form of the trigeminal cough, however, is the most frequently met with. "In all cases," says Wille, "in which we find an obstinate cough and yet are unable to discover any organic alterations, a trigeminal neurosis should be thought of. In the trigeminal cough, as in the asthmatic paroxysm, the neurotic affection is the principal fact, and not, as some authors have asserted, some possibly visible anatomical alterations of the mucous membrane, such as tumefaction of polypi, etc.

Not only the direct cauterization of the nares, but even the simple sounding executed sufficiently roughly to provoke epistaxis, suffices to produce an improvement of the neurosis.

The therapeutic success of iodide of potassium in nervous asthma, which is actually but an intense nasal trigeminal neurosis, is to be explained by the hypersecretion of the part, excited by the drug, which assists in the elimination of foreign irritations and bodies from the affected tissues.

As the best mode of treatment of trigeminal neurosis the galvanization of the nasal nerves with a weak induction-current has been warmly recommended. In lighter cases a resolving treatment, with the nasal steam-douche and the internal administration of iodide of potassium, will be sufficient. The sneezing and snuffling produced by this drug is the very thing desired.

Wille formulates his general conclusions on this subject as follows:

1. The trigeminal cough is by far the most frequent type of all existing coughs.

2. It is a nasal reflex neurosis, and may be regarded as the pathological inversion of the sneezing act.

3. This neurosis may exist with or without anatomical alterations of the nasal cavities without being dependent upon them.

4. The highest expression of this neurosis is the nervous asthma.

5. This reflex can be provoked by all branches of the spheno-palatine ganglion, and by the ethmoidal nerve.

6. Every local treatment in the domain of the trigeminus, which alters its reflex functions, may lead to an improvement or even a cure of the affection.

A SUGGESTION made by Dr. Massey, of Philadelphia, seems, on the score of cleanliness, worthy of a brief note. This is that medical electricians should substitute for the usual sponge coverings of electrodes absorbent cotton, which answers just as well, is superior in appearance, and on account of its cheapness may be changed as often as is desired.

Reports on Therapeutic Progress.

THE INTRACAPSULAR INJECTION OF WATER IN THE EXTRACTION OF CATARACT.

At a recent meeting of the Ophthalmological Society of the United Kingdom, Dr. W. A. McKeown read a paper on this subject (*Med. Times and Gazette*, October 24, 1885).

His method consisted essentially in the substitution in the operation of extraction of a washing out of the cortex for the pressing, rubbing, and scooping out. His favorite method of operating now was as follows. He made the small flap-section of the cornea above with puncture and counter-puncture in the sclero-corneal margin, and cutting out about half a line from the corneal margin. He always performed iridectomy. After lacerating the capsule freely and expelling the lens, if any cortex were left behind he introduced the perfectly clean scoop-syringe well within the capsule, and injected gently distilled water of the temperature of about 100°, making gentle motion at the same time with the scoop to facilitate removal. He had now used the scoop-syringe in all thirty-nine times. In one case only was there irido-choroiditis, with

complete closure of the pupil, but good perception of light. In another case there was most insidious iritis, beginning after the patient's discharge from the hospital, and going on to closure of the pupil, but in this there was a good prospect from iridectomy. In the case of a syphilitic subject there was a severe iritis arrested by artificial leeching and mercurial inunction. In no case was there suppuration of the eye or of the cornea, and in no instance was there escape of vitreous from the use of the syringe. Even in two cases of traumatic cataract the syringe was used with advantage, notwithstanding the previous escape of vitreous. In a few cases some iritic adhesions formed, as was common in ordinary cataract operations, but caused no pain or diminution of vision. In twelve cases the cataracts were unripe, and in several the cortex was very sticky. In the last thirty cases he had had only one inflammation, and that was in the case of the syphilitic subject above referred to. There were two cautions to be observed: firstly, after iridectomy, to get the blood out of the anterior chamber as quickly as possible; secondly, to be careful to introduce the scoop within the capsule. He did not believe in operating as against time, but there could be no doubt that the quicker the work could be done and the eye bandaged the better. He timed the duration of the last eleven operations from the introduction of the speculum to the application of the bandage. It varied from six to fifteen minutes, the average being about nine minutes. The operations were all done without chloroform, and some of the patients were restless. The conclusions which he thought he might draw from his own experience were,—1, that the judicious injection of water within the capsule of the lens was innocuous; 2, that it was not liable to cause loss of vitreous; 3, that it was advantageous both in ripe and unripe cataracts; 4, that it shortened the average duration of cataract operations; and, 5, that it was a most efficient means of clearing the wound.

Mr. McHardy said that this operation appeared to present two sides,—first, to ripen immature cataracts previous to removal, and, second, to facilitate the removal of cortex. His experience of Förster's operation of trituration of the cortex had been satisfactory. Often in three or four days the cataract ripened, and the patient was spared the long period of blindness, waiting after one eye had become blind until the second had become sufficiently blind to justify the operation. In extracting lenses after this method he had not experienced any unusual loss of vitreous. No doubt there was a little more risk of this in these cases; but it was compensated for by the being able to operate a great deal earlier and break down synechiæ. He was in favor of a preliminary iridectomy. Then he thought there would be some difficulty in introducing the instrument. In cases of sticky cortex he had always found it sufficient to let in a little aqueous humor, and then churn it up by gently rubbing the lids, when the cortex was speedily rendered removable. He did not find that this occupied more than two minutes as a rule.

NOTES ON THE NEW ANTISEPTICS, HYDRONAPHTHOL AND THE POTASSIO-MERCURIC IODIDE.

In a paper read by R. J. Levis, M.D., before the Philadelphia Academy of Surgery, on November 2, 1885, the following are the claims made for the newly-discovered antiseptic, hydronaphthol (*Maryland Med. Journ.*, November 2, 1885):

It is at least twelve times as effective as carbolic acid, and is entitled as a true antiseptic to occupy a position in the comparative tables next to the mercuric bichloride.

It is thirty times as potent as salicylic acid, sixty times as effectual as boric acid, and has six hundred times the antiseptic power of alcohol.

Hydronaphthol is soluble when placed in cold water to the extent of one part in two thousand. It is soluble in hot water in the proportion of one to one hundred; but when the water becomes cooled to ordinary temperatures a precipitate occurs, leaving a solution of one to one thousand. In this strength of one to one thousand it permanently prevents the development of the germs of putrefaction in all putrescible fluids.

Whilst the true antiseptic or *inhibitory* action of hydronaphthol in such cold aqueous saturated solution is perfect, its germicidal and proper disinfectant power is ineffective. For the destruction of already existing germs, such as have a tenacious vitality, as those of anthrax bacilli and pathogenic micrococci, it therefore cannot be relied on. As to its action in this regard, as compared with carbolic acid, it should be remembered that a ten per cent. carbolic solution is required,—a strength practically improper in wound treatment. In ordinary antiseptic practice, carbolic acid is valuable only on account of its inhibitory action.

The first use of hydronaphthol as an antiseptic was by Dr. G. R. Fowler, of Brooklyn, to whom the profession is indebted for its introduction to practical surgery. Dr. Levis's experience with the antiseptic action of hydronaphthol in the wards of the Pennsylvania Hospital and in private surgical practice confirms his observations, as given in his recent articles in the *New York Medical Journal*.

Hydronaphthol is a grayish substance, in the form of crystalline lamina, having a slightly aromatic taste and odor. It is soluble freely in alcohol, ether, chloroform, glycerin, benzole, and the fixed oils.

In the aqueous saturated solution of one to a thousand it is absolutely unirritating, and has no toxic action, either local or systemic; is free from unpleasant odor, and has no injurious action on metallic instruments or on clothing fabrics.

Besides its use in aqueous solution, Dr. Levis has used it in form of a powder diluted, preferably with the oxide of zinc, in the proportion of one to fifty, and he believes that hydronaphthol may well displace carbolic acid from practical surgery.

The potassio-mercuric iodide is four or five times as powerful as a true germicide or disinfectant as the mercuric bichloride. For such use it is effective in aqueous solutions in the proportions of only one to twelve thousand.

The potassio-mercuric iodide is made by simply dissolving equal quantities of the biniodide of mercury and the iodide of potassium in distilled water. The solution is evaporated, and there remain yellow, needle-like crystals of the potassio-mercuric iodide.

In the use of such dilutions of this powerful antiseptic, local irritation is entirely avoided, and the risk of producing the constitutional effects of mercury is greatly diminished.

The introduction into surgical treatment of these two remarkable and powerful substances, hydronaphthol and the potassio-mercuric iodide, will do much to overcome some of the objections and inconveniences of antiseptic practice.

TREATMENT OF OTORRHŒA.

Brückner employs the corrosive sublimate and red precipitate with great success in various affections of the ear (*Annales de la Société Médicale d'Anvers; Journal de Méd.*, No. 4, 1885).

The red precipitate is either used alone or mixed with an equal quantity of alum, especially when the tympanic membrane is partly destroyed and the suppuration scanty.

If the external auditory meatus presents granulations or furuncles, the precipitate, used in form of a pomade, is very appropriate. Brückner prescribes:

℞ Red precipit., 2 parts;
Vaseline, 30 "

If the suppuration of the middle ear is abundant and fetid, Brückner uses an instillation consisting of 1 part of corrosive sublimate to 500 of alcohol.

The passage of a sublimate solution into the Eustachian tube is more to be dreaded than even mercurial intoxication.

CAUSES AND TREATMENT OF QUINSY.

Dr. F. P. Atkinson (*Practitioner*, November, 1885) believes that cold and rheumatism play little or no part in the production of quinsy, but that nervous and muscular exhaustion are the immediate causes; for if quinsy was the result of cold acting on the throat, laryngitis would be a much more frequent accompaniment than it now is, and, besides, the second attack rarely follows till after a lapse of some months, no matter what the amount of exposure. The treatment which he recommends he believes to be almost specific, since few or no cases will go on to suppuration if treated at an early period in the way he recommends.

The effervescing citrates will be found useful in allaying not only this but all other kinds of glandular inflammations; and Dr. Atkinson orders 20 grains of bicarbonate of potassium to be taken with 15 grains of citric acid every four hours in a state of effervescence. Guaiacum, which has long been known to be beneficial in throat cases, is best given in the form of lozenges made up with black-currant jam, in accordance with the directions of the pharmacopœia of the Throat Hospital, Golden Square. One of these lozenges should be sucked frequently. Iodine, when applied locally in cases of glandular inflammation, is known either to reduce the enlargement or to hasten suppuration, according to the stage in which it exists; and a gargle containing from 20 to 25 minims of the tincture to the ounce of water will be found particularly useful. This may be used by taking a little in the mouth and shaking the head from side to side. Port wine is an essential part of the treatment, and it is neces-

sary for the patient to take from 4 to 6 ounces in the course of the day, besides plenty of beef-tea and milk. By this method solution is almost always brought about, and the patients are, with scarcely a single exception, able to resume their usual duties after the fourth day. The usual duration under the old methods of treatment was almost always from nine to ten days. Dr. Atkinson particularly urges upon those who are willing to give the above-mentioned method of treatment a trial not to be discouraged if the patients complain of feeling no better, or even worse, for the first two days, but to persist with it all the same, and they will be certain to meet with the success they and their patients desire. Though the bowels are almost always confined, it is not advisable to administer aperients, since as recovery takes place they are moved as regularly as possible without any extraneous assistance. When suppuration has commenced in the tonsils, which may be looked for about the sixth day, and made out by great throbbing in the ear on the affected side, it is best to omit the effervescing citrates and guaiacum lozenges, and depend upon the iodine gargle, together with the port wine and beef-tea. Suppuration is by this means hastened and suffering curtailed.

ACTION OF OLEUM THUJÆ AND ITS CONSTITUENTS.

From a recent inaugural thesis of Dr. Strahlmann, of Göttingen, on the action of oleum thujæ, we extract the following *résumé:*

1. Both main constituents of the oil of thuja, viz., terpene and thujol, are irritants to the skin. Larger doses applied hypodermically, or given internally, produce serious inflammatory conditions.

2. In cold-blooded animals respiration and motion are paralyzed, and the cardiac action slowed by either; thujol acts with greater intensity than terpene.

3. In warm-blooded animals terpene reduces both the respiratory and the systolic frequency and lowers the temperature; the movements of the body grow awkward and slow, without being at any time wholly suspended. Larger doses produce fatal results by respiratory paralysis, while smaller doses (below ½ gramme: 7½ grains) reduce simply the temperature.

4. Terpene is able to counteract the action of camphor, provided the former is given in a much larger dose than the latter.

5. Thujol quickens respiration and lowers the temperature in warm-blooded animals. Its action on the heart is irregular; the frequency of the pulse grows soon greater, soon smaller. Frequently a cardiac spasm is introduced by an increase of the heart-beats.

6. Thujol raises the blood-pressure, even when curare has been administered.

7. Thujol produces convulsions having a central origin. These convulsions are of a singular nature: the animals begin to tremble, stand up vertically, grind their teeth, wink with their eyes, and make chewing motions; then they suddenly rush forward, drop, and are seized by an intense tetanus, followed by clonic cramps. The pupil is soon dilated, the saliva flows abundantly from their mouths, and the peristaltic movements of the intestines are increased. The cause of these convulsions consists in an excitation of the medulla oblongata, or, more properly, of the cramp-centre, which is situated in the medulla. A primary implication of the spinal cord could not be demonstrated.

8. Daily injections of small quantities of thujol have at first no effect, but later on produce cramps, which terminate in the death of the animal. This proves the cumulative action of thujol.

9. Of the two oils of thuja, the one having the higher boiling-point has the more toxic action. It acts fatally in smaller doses, and causes intenser cramps.

10. These experiments do not suggest any therapeutic utilization of the oil of thuja or its principal constituents.

THE TREATMENT OF RACHITIS WITH PHOSPHORUS.

The twenty-third volume of the "Jahrbuch für Kinderheilkunde" contains two communications on the subject of the treatment of rickets by means of phosphorus, the one by Carl Hochsinger and the other by Griebsch. Both of these observers relate the results of an extended series of investigations, although the former presents statistics ranging over a much wider field than the latter. Comparing these results, however, whether reduced to percentages or considered individually or in groups, the reader cannot fail to be struck with the very marked divergence from one another which they present. The symptoms of rickets and the physical signs with which they are associated are well known and easily recognizable; and whatever the influence of this or that "diathesis" may be upon indi-

vidual cases, the features of the disease are as clearly defined as those of any other malady to which children are subject. Nor is there much ambiguity in the pathology of the disease, although a variety of ingenious theories have been from time to time propounded to account for the onset and initial stages of the well-known changes. It cannot, therefore, be assumed that so great a discrepancy in the results of therapeutic treatment can be due to error in the choice of cases. The fact, however, remains that one observer obtained good results in all but twelve cases out of a total of four hundred and eighty-seven, whilst another records an almost equal balance of success and failure in a total of forty-one cases. Whether in the general progress of the disease or in the prominence of one or other of the special physical signs and symptoms, this inequality remains the same.

It is hardly to be wondered at that the one author is as positive in his praise of phosphorus as a specific as the other is negative in his belief in it as a practical remedy. Differences of opinion upon this point, however, have frequently found expression in the columns of the medical journals and in the "Transactions" of the societies, and much has been said in praise or blame of the drug, but it has not yet been made sufficiently clear that success has been due to the phosphorus alone. In one of the present series of cases a somewhat important fact is stated in parenthesis, to which a little more prominence might well have been given. The phosphorus, we are told, was administered in the form of an emulsion with cod-liver oil in all those cases of which so many proved satisfactory. The accuracy of therapeutic observation is sometimes spoken of by sceptical critics in a tone of undisguised contempt, and complaint is often made that such a tone is unwarranted and unfair. But the complaint is not justified. The publication of successful cases claiming to prove the efficacy of individual drugs will never deserve the rank and style of scientific work so long as the writers continue to suppress other points in the history of their cases which may have a bearing upon the final result. What value can possibly be attached to the vaunted action of a new drug when it is found that the exciting cause of the malady has been at the same time removed? A rickety child, placed in good hygienic surroundings, properly fed and supplied with cod-liver oil, is, in the great majority of cases, enabled to overcome his rachitic tendencies. Does phosphorus enable him to overcome them more rapidly? It either does or it does not. The elaborate statements in the two papers which we have quoted afford no satisfactory answer to the question.—*Medical Times and Gazette*, November 14, 1885.

ANTIPYRINE.

HUCHARD writes to the *Journal de Médecine*, No. 3, 1885, "We give antipyrine in the Bichat Hospital (one of the largest in Paris) always with the greatest success." These words, coming from so high a clinical authority, can be taken as characterizing the present status of the new remedy in the therapeutic world. The distrust and scepticism which this drug, like every other new preparation, had to encounter are gradually being superseded by a certain confidence, on the part of therapeutists, in its antipyretic value, though its proper dosage is still a matter of considerable discussion.

Huchard advises to give, in phthisical patients, not more than ½ to 1 gramme (7½ to 15 grains), instead of 2 to 4 grammes (30 to 60 grains), and, in typhoid fever, not over 1 gramme every three or four hours. This method of administration will prevent the only serious objection to its use,—viz., the profuse perspiration, which, on account of the ensuing exhaustion, is not rarely a dangerous occurrence. Although antipyrine will in no instance reduce the temperature to its normal level, it will invariably produce a sufficient reduction of the same to render its employment, both in phthisical and typhoid conditions, very desirable.

IODIDE OF METHYL AS A VESICANT.

DR. R. KIRK, of Glasgow, describes iodide of methyl as possessing effective vesicant properties, which hitherto appear to have escaped notice, although it was recognized by Sir James Simpson whilst engaged in his research for local anæsthetics that the vapor when applied to the skin caused intense redness, lasting some days, its vesicating property being probably unnoticed on account of the volatile nature of the liquid. Dr. Kirk states that when applied, by pressing the mouth of the bottle containing it against the skin so as to bring the liquid freely into contact with the surface, a tingling, burning, and biting sensation is produced like that of pricking with a number of needle-points, the

maximum of pain being reached in a few minutes. On removing the bottle, pain instantly ceases. Redness of the surface, however, follows after several hours, and in twelve hours vesication commences and continues for twelve hours, the blister being quite as full of serum as if produced by cantharides, but there is no pain caused during the process.

The iodide is best applied on lint under a watch-glass of suitable size, a drop or two of soda solution being added before it is used to neutralize any free iodine that may be present in it. Dr. Kirk thinks that it may be used with advantage in cases where a profound local impression is required to be produced, or where strangury is feared.—*Pharmaceutical Journal and Transactions*, October 24, 1885.

ERGOTININE INJECTIONS IN GOITRE.

℞ Ergotininæ, gr. xv;
Glycerinæ,
Aquæ dest., aā ʒii.
Fiat sol.
S.—Inject 16 minims hypodermically.

COGHILL and BAUWENS (*Journal de Médecine*, No. 3, 1885) recommend the injection of this ergotinine solution instead of the usually practised iodine injections in goitre. There was little pain attaching to the operation, and no swelling following. The ergotinine was in two cases pushed by them to three grammes (45 grs.) for the same quantity of menstruum, and a slight amelioration of the affection obtained. Later, four injections were made in two weeks with the following solution:

℞ Ergotininæ, gr. lxxv;
Glycerinæ,
Aquæ dest., aā ʒii.

Although a little pain, and even tumefaction, followed, the tumor disappeared entirely at the end of the third week following the last injection.

In exophthalmic goitre the same procedure is apt to be likewise successful, according to the statement of our authors.

CHLORIDE OF ALUMINIUM IN THE TREATMENT OF DIPHTHERIA.

The generally accepted idea as to the pathology of diphtheria is that it begins as a local disease and develops afterwards into a general one, and that the general infection is kept up by the local one. The disease establishes itself first in one spot, and then it distributes itself throughout the body. The indications that naturally, therefore, call for treatment at the early stage of the disease are to destroy its progress by local treatment. This can be accomplished, according to DR. JAMES F. SULLIVAN (*Pacific Medical and Surgical Journal*, November, 1885), by the local application with a sponge of a solution of nitrate of silver, one drachm to the ounce, applied three times the first twenty-four hours, and twice the second. This application, it is claimed, will generally cut short the disease, and always relieve the local symptoms and general fever. This application not only destroys the fungus, but acts as a healthy alterative and astringent to the diseased mucous membrane by coagulating the albumen of the subjacent tissues and retarding exudation.

The next most important measure in local treatment is irrigation of the throat every half-hour with warm water medicated with the solution of chloride of aluminium, in the proportion of two tablespoonfuls to the cup. If the patient is old enough to gargle effectively, that will be sufficient; but if not, the throat should be washed out with the solution by means of a Davidson's syringe. The chloride of aluminium, by its antiseptic and astringent action, seems to put a new face on diphtheritic surfaces within a few hours. Its effects are claimed to be surprising, and as it is non-poisonous it may be used very freely. Where the use of nitrate of silver is objected to this solution could be applied of full strength, either with probang or syringe.

THE INFLUENCE OF VARIOUS FOODS ON DIGESTION.

DR. MASANORI OGATA (*Prager Med. Wochenschrift*, September 2, 1885) has experimented with the influence of water, coffee, and tea, salt, sugar, beer, wine, and spirits on gastric digestion. The experiments were made on dogs with gastric fistulæ. In most of the experiments raw horse-meat was used as food, while in a few fibrine or cooked horse-meat was given. The duration of each experiment was one-half an hour. The following is the *résumé* of his results:

First.—Water, carbonic acid water, tea, and coffee, in moderate amounts, did not affect digestion.

Second.—Beer, wine, and spirits at first considerably slow digestion until they are absorbed, and it seems that beer, from the extractive matters it also contains, produces greater disturbing effect on digestion than wine with the same alcoholic percentage.

Third.—Sugar, both cane- and grape-sugar,

considerably retards, but salt very considerably accelerates digestion. Of course it is hardly necessary to mention the caution which must be observed in applying these results to man which are obtained in the dog fed on articles of food not properly belonging to his natural diet. The results are, however, of sufficient interest, as they in a general way conform with the ideas that are held on this subject.

THE TREATMENT OF PNEUMONIA BY QUININE.

Dr. F. P. Atkinson (*Practitioner*, October, 1885) thinks that the results of the Collecting Investigation Committee of the British Medical Association as to the treatment of pneumonia by quinine are destined to lead to the general adoption of this method of treatment. He believes that in almost every case it prevents the disease advancing beyond the first stage and rapidly causes resolution to take place. It does away with the necessity of poulticing, all that is required being an application of cotton-wool to the front and back of the chest. It also seems to be equally successful in cases occurring in young children and infants. The plan of treatment is to give to the adult 2 grains every three or four hours, according to the severity of the case, combined with hydrobromic acid, and if there is any delirium, a few drops of tincture of digitalis may also be given. If there is a large deposit of urates in the urine, citrate of potassium may be given alternately with the quinine.

Dr. Stewart Lockie (*Edinburgh Med. Journ.*, November, 1885) also speaks very highly of the use of quinine in pneumonia.

Where the pyrexia exceeds a moderate amount, say 103°, he has great faith in the use of quinine, and gives it in commencing doses of 10 grains at night and 5 in the morning; larger doses may be given if the smaller fail in reducing the temperature.

In administering quinine in large doses by the mouth it is important to give it after food, and if necessary to divide the dose, administering the divided doses at intervals of twenty minutes or half an hour. If the stomach does not bear quinine well, it may be given per rectum or hypodermically. He is opposed to all lowering measures. It may be that cases now and then occur in which excessive dyspnœa, with the right side of the heart engorged, may call for a moderate blood-letting; but he says he has never seen a case in which he has been tempted to do this. In his view, pneumonia should be treated much as fevers are treated. The patient should be placed in a pure atmosphere with an equable temperature and supplied with a moderate amount of easily assimilated nourishment,—not too much, lest we overtax the already overburdened kidneys, which are probably the main agents in eliminating the poison from the system. For the relief of pain in the side, moderate doses of opium in the form of Dover's powder or hypodermic injections of morphine are useful. A small amount of albumen in the urine does not contraindicate the employment of these, provided there is no reason to think that organic disease of the kidneys was previously present; if there is reason to think this, opiates should, if possible, be avoided altogether.

NOTE ON TREATMENT OF ARTICULAR RHEUMATISM.

The remarks of Dr. Edgar von Aigner, a well-known clinician of the famous Töpliz Springs, on the treatment of rheumatism (vide *Wiener Med. Presse*, Nos. 25, 26, 1885), must be a genuine surprise to every practitioner. "I ask, invariably, every patient," Aigner says, "that comes to our springs for treatment of rheumatism whether he was treated with salicylic acid or salicylate of sodium, and I find that not ten per cent. of all rheumatic patients that have taken these drugs felt assured of their beneficial effects." We can, on the contrary, all agree with the assertion of Dr. Weiser, of Vienna, published in the above-quoted journal, in No. 33, as a response to Aigner's note, that possibly not in thirty or forty per cent. of all rheumatic patients treated properly with salicylate of sodium a negative result was obtained.

Yet few remedies can with more propriety claim the character of a specific than salicylate of sodium in articular rheumatism, if exhibited in a proper dose and sufficiently early. In a child up to the tenth year 75 grains will usually be required *pro die*, one powder to be given hourly even during the night. Adults should obtain 2 to 2½ drachms *pro die* in the same manner. Thus administered the drug often, after ingestion of twelve powders, subdues the most violent pains, and the physician is often, at his second visit, received by the patient with joyful eyes and a grateful heart.

In view of the ease and comfort which the elimination of pain procures for the patient, the frequently appearing secondary effects of the

drug, such as sweats and ringing in the ears, cannot be regarded as important. There are, however, cases in which the drug is ill borne, chiefly in the various gastric affections, and in an occasional idiosyncrasy, though these are merely exceptions. And even if the percentage of rheumatic patients cured by salicylate of sodium were much less, this drug, which has been tested in thousands of cases, must be regarded as our great stand-by in the treatment of rheumatism. Truly, we cannot anticipate any curative effects if a drachm is prescribed to be divided into twelve powders, which may last for three or four days. To obviate, or at least decrease, to a minimum the gastric irritation often produced by the drug it is well to take a cup of milk after each powder; best, of course, taken in capsules if the solution be not preferred.

Of the 2 or 2½ drachms, divided into twenty-four powders, on the first day hourly doses should be taken; on the second day, two hourly doses; and on the six following days six powders daily. Lukewarm water applications to the joints, renewed every quarter- or half-hour, recommend themselves as an additional salutary measure. Whether preparations of lead are added to the water or not is immaterial.

The application of ice-water to the affected joints, once in vogue, has fortunately been discarded, though Esmarch only recently advised again the use of ice-bags. In intense cases even the most ordinary applications are sometimes interdicted on account of the pain produced by every, however slight, contact with the affected joints; this would all the more be the case with heavy ice-bags. And it would even seem as if a powerful peripheral cooling would cause the blood to stagnate in the internal parts, and would thus favor cardiac implication. To prevent the latter it is advisable at the very beginning of an acute articular rheumatism to protect the cardiac region by cold lotions, best applied by Leiter's regulator. These applications are to be continued until the most threatening symptoms have disappeared.

Though the most evident success with salicylate of sodium is only attainable in recent cases, an occasional cure is, nevertheless, attainable even in cases of several weeks' standing. It is, consequently, not out of place to try the drug even in such cases, though the doses must of course be large. Weiser reports two cases of four weeks' standing which had been treated with small doses of salicylate of sodium, of course without success, and which were both cured by twelve powders of 0.40 grm. (6 grs.) each.

In two other cases of an exceedingly painful articular rheumatism forty-eight powders sufficed to subdue all pain and other inflammatory symptoms. In the first case, a boy, 8 years of age, 2½ drachms, divided into forty-eight powders, were given; in the second case, a girl, 26 years of age, 4 drachms were given in forty-eight doses.

As to chronic articular rheumatism, it is an incontestable fact that warm baths in connection with massage exercise a very favorable influence over the affection, though in many cases a wet sheet, followed by vigorous rubbing, is preferable, on account of its invigorating effects.

NITRO-GLYCERIN.

According to Dr. M. Hay (*Boston Med. and Surg. Journ.*, October 15, 1885; from *Journ. of the Chemical Society*), the poisonous action of this compound cannot be explained by the action of its constituents. The symptoms are similar to those produced by amyl and potassium nitrites. The author found that of the three NO_3 groups present in nitro-glycerin only one is removed by the action of alkalies as nitrate, the other two combining with the alkali as nitrite, while the oxygen set free oxidizes the regenerated glycerin. An alcoholic nitro-glycerin solution reacts rapidly in this sense with an alcoholic sodium hydrate solution with development of much heat. The formation of nitrite, however, occurs even on digesting at 40° an aqueous solution of nitro-glycerin (1 to 800) with a little sodium hydrate (0.2 per cent.), the reaction being complete in about ten minutes. Blood at the temperature of the body acts similarly; the blood becomes chocolate colored, as is the case when it is exposed to the action of amyl or potassium nitrite. Spectroscopic observation reveals the methæmoglobin band. Reducing agents reproduce the red color of hæmoglobin, as in the case of the nitrites above mentioned. Hence nitro-glycerin acts by its conversion into nitrite.

THERAPEUTIC EFFECTS OF THE SALTS OF COPPER IN SCROFULA.

Prof. Moulin, of Gand (Belgium), publishes in *Les Annales de la Société de Médecine d'Anvers*, the results obtained in twenty-seven cases of scrofulosis of divers manifestations

with the sulphate of copper (*Journal de Méd.*, No. 4, 1885).

In ten cases of eczema and impetigo treated with the sulphate of copper, Moulin obtained ten cures; the internal daily administration of $\frac{3}{10}$ to $1\frac{1}{2}$ gr., according to age, was sufficient. As emesis is the rule, when the salts of copper are given on a full stomach, Moulin advises to give the drug to such children as vomit obstinately at night. If the crusts do not come off easily, a glycerite of sulphate of copper containing one part of the metal to sixty parts of glycerin will act satisfactorily. Our author has seen equally favorable results produced by copper in cases of adenitis and scrofulous ophthalmia.

In children ranging from nine to fourteen years, Moulin often employs pills containing $\frac{15}{100}$ to $\frac{3}{10}$ gr. of the carbonate or sulphate of copper, and gives from 3 to 6 of them daily, preferably after meal-time.

This treatment was very successful in acute and chronic adenitis, and even chronic blepharitis, without the aid of any topical medication. If, however, the blepharitis became a conjunctivitis or ulcerative keratitis, the action of copper was less manifest.

ASPIRATION OF THE AORTA FOR SUDDEN PULMONARY CONGESTION.

Mr. J. Dacre reports in the *Bristol Medico-Chirurgical Journal* for September, 1885, a case of a laboring man, aged 40, who was brought to the Bristol Royal Infirmary on April 19, with the history that for twelve months he had had a severe cough, had been losing flesh slightly, and on a few occasions had spit up a little blood. His condition had never before been in any way critical, and on the day previous to admission he had been doing his work regularly. About three hours before being admitted to the hospital he got up as usual, and was preparing breakfast, when suddenly he began to be very short of breath, complained of pain across the chest, and rapidly became blue in the face, and had shown no signs of improvement since. When seen at the Infirmary he was gasping for breath; there was great lividity of the skin, which was cold and clammy, pulse very feeble and rapid; loud gurgling râles could be heard over each lung, both in front and behind. Cardiac dulness was very small, the apex-beat of the heart being barely visible. He was immediately put to bed, warmth applied, and stimulants given freely, but without avail. He steadily grew worse, and an hour and a half after admission was *in extremis*. As there was apparently next to no systole of the heart and no distention of the superficial veins, it was determined to relieve the venous engorgement of the lungs and right side of the heart by tapping the right auricle itself. Accordingly, a medium-sized needle and canula were inserted in the fourth intercostal space on the right side, close to the edge of the sternum, and passed straight through the intercostal tissue until it was felt in the chest; the point of the needle was then turned sharply towards the sternum and pushed in that direction for about one inch and a half, when it was felt to be free in a cavity, but no impulse was communicated to it. On removing the needle dark blood immediately jetted out of the canula, which was at once attached to an aspirator to withdraw the blood more carefully. Immediately after the first gush of blood the heart's action was resumed sufficiently to communicate an impulse to the needle, and when sixteen ounces had been removed there was a very fair pulse at the wrist. The needle was removed after thirty ounces of blood had been withdrawn, and the puncture at once sealed with collodion. His condition was very materially improved by the operation, breathing more rapidly, and consciousness was restored. His condition remained fairly good until the evening, when again it became very serious. The aspiration was repeated, and sixteen ounces of venous blood again were withdrawn, and the pulse for a few minutes revived. He then suddenly became more restless than before, the pulse rapidly failed, breathing became slow and more gasping, and in spite of stimulation by hypodermic injections of ether and brandy, he died forty minutes after the second operation.

At the post-mortem examination it was found that the needle had passed above the right auricular appendix, and had pierced the anterior surface of the aorta about one-fourth of an inch above one of the semilunar valves. Both sides of the heart were distended, with great hypertrophy of the walls of the left ventricle and vegetative disease of the aortic valves. The lungs were almost solid with œdema. Whether success would have followed the aspiration of the right auricle, the point aimed at in this operation, is of course problematical, though it is highly probable that the result would have been even more favorable than it was. In the case reported by Mr. Dacre palliation was all that could have been expected, and that certainly was

obtained, for the man was granted a respite of at least six hours, a fact which in some cases might be of the utmost importance. At present tapping of the heart is an operation which is still in its infancy, and records of cases heretofore published seem to show that the operation is not attended by any very serious risk. The point brought out by Mr. Dacre's case is that the needle inserted in the fourth intercostal space and passed directly backwards almost invariably pierces the right auricle.

ON THE IMPORTANCE AND DIAGNOSIS OF GONORRHŒA IN WOMEN.

DR. LOMER, at a recent meeting of the Hamburg Society of Physicians, made some interesting remarks on gonorrhœa in women, from which we extract some practically important points (*Deutsche Medicin. Wochenschr.*, October 22, 1885).

Next to confinement, the gonorrhœal infection is to be regarded as the most important etiological factor in the diseases of women. Sänger, speaking before the last meeting of physicians at Magdeburg, went as far as asserting that one-ninth of all cases presented for gynæcological treatment were of gonorrhœal origin, and that gonorrhœa with its sequelæ was actually a more dangerous affection for women than syphilis. This will be regarded as an exaggeration by many; but it must be remembered that a gonorrhœa in a woman may lead directly to her death: the purulent process, namely, may extend to the Fallopian tubes, produce erosions, and, by a rupture, a fatal peritonitis. Still, even aside from these fortunately rare occurrences, many affections diagnosticated as exudations, perimetritis, fixed position, changes of the uterus, catarrhs of the cervix, erosions, sterility, and others can often be traced to a gonorrhœal origin.

But a woman may have a gonorrhœa, and be able to infect others, without presenting, even on the closest examination of the vagina, any suspicious symptoms, or feeling any subjective discomfort. In these cases the gonorrhœal process is localized to the cervix, and will wholly escape detection. The following case might serve as a good illustration: A woman of 25 years of age had been married for two years without conceiving. Her husband died, and she married again an apparently perfectly healthy man. The new husband acquired a gonorrhœa, and accused his wife of being the source of infection. The wife protested against any such accusation, and, to terminate all trouble, presented herself for a medical examination to two physicians at two different occasions. Neither could detect any traces of gonorrhœa. Accidentally the same woman was a little later presented to Lomer for examination. Vulva and vagina were found to be perfectly normal, but an inspection of the cervix revealed the presence of an erosion and of a purulent focus. In the secretion of the cervix the characteristic Neisser's gonococci, enclosed in pus-cells, were readily made out.

Lomer thinks that most prostitutes have a cervical gonorrhœa, without implication of vagina and vulva.

Bumm has recently published some highly interesting studies on this subject. This author holds that the cervix is the most ordinary seat of gonorrhœa; that the cylindrical epithelium is the most favorable soil for the gonococci, which cannot penetrate so easily the vaginal epithelium. What is usually called the vaginal mucous membrane is actually no mucous membrane, according to Bumm, for there are but few mucous glands present, and then the squamous epithelium of the vagina points to the anatomical relationship with the epidermis. The appearance of the vagina is certainly that of a mucous membrane; but this is owing to the cervical secretion running over it constantly, and producing a state of maceration of the superficial squamous epithelium. If this secretion is wanting the vagina assumes an epidermis-like appearance, as can be seen in prolapse. Bumm thinks that the majority of gonorrhœas in women exist either alone in the cervical region, or, if occurring in the vagina itself, have been transplanted thither by the cervical secretion.

The microscopic determination of the gonococci in the gonorrhœal vaginal secretion is connected with far greater difficulties than in the case of the discharge of the male urethra. The field of vision is usually found so crowded with bacilli, diplococci, epithelial cells, detritus, etc., that even an experienced eye finds great difficulty in ascertaining Neisser's specific microbes. Still, the true gonococci show some peculiarities which may enable us to often determine their presence. It is a characteristic of them to enter the pus-cells, and to aggregate in round and well-defined colonies. Hence we will at least occasionally be able to say, "This is a case of genuine gonorrhœa." Extended researches at Schroeder's gynæcological institute in Berlin convinced Lomer that the vaginal secre-

tion was unfit for the determination of the gonococci, while in the cervical secretion their presence could be made out comparatively easily.

In conclusion, Lomer refers to the fact that women with a gonorrhœal infection remain usually sterile, and ascribes the rarity of conception in prostitutes to existing cervical catarrhs and other chronic though subacute affections of a gonorrhœal nature.

BRUCINE.

Dr. T. Lauder Brunton (*Boston Med. and Surg. Journ.*, October 15, 1885; from *Journ. of the Chemical Society*) has made some experiments with pure brucine, and concludes that it has a convulsant action resembling that of strychnine; but the action is not only weaker in itself, but is so much lessened in the case of mammals by the rapid elimination of the poison as to give rise to no symptoms when the brucine is taken by the mouth. Its convulsant action is shown very distinctly when the brucine is injected in solution into the abdominal cavity, so that it is rapidly absorbed, and the whole, or nearly the whole, of the quantity administered is able to act upon the organism, there being no time allowed for its excretion. When it is taken into the stomach, on the other hand, excretion appears to go on *pari passu* with absorption; there is no large quantity of brucine at any one time in the blood, and the animal does not suffer. The difference between the effects of the two appears therefore to be one of degree rather than of kind, and to be chiefly dependent on the more ready elimination of brucine. The latter, like strychnine, produces death by convulsions, and not by paralysis, but like curara, it is innocuous when taken into the stomach, though fatal when injected under the skin.

CHLORAL IN WHOOPING-COUGH.

As the number of actually specific remedies in disease is but limited, it is obviously an advantage of the practitioner to have a number of medicaments at his disposal which, in default of any specific medication, are known to exert a favorable influence upon the various affections. In whooping-cough no drug can be said to have a specific action, though a number of remedies certainly are known both to shorten the duration of the disease and to moderate its intensity.

Joffroy, chief of the Children's Hospital of Paris, relies more upon chloral than upon any other drug, and is perfectly contented with its medicinal efficacy (*Journal de Médecine*, No. 3, 1885). In cases complicated with an intense bronchitis or broncho-pneumonia, however, the drug is not indicated. Joffroy prescribes chloral in a confection of currants, which completely disguises its disagreeable taste and allows of an exact dosation. In children under five years of age 15 grains for twenty-four hours is regarded as sufficient, while in older children and choreic patients 30 grains and more may be given *pro die*.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

At the Fifty-third Annual Meeting of the British Medical Association, Dr. D. Berry Hart read a paper in the Section of Obstetrical Medicine on the mechanism and management of the third stage of labor, in which the following points were brought out (*British Med. Journ.*, October 24, 1885):

In the management of a normal third stage the patient should occupy the dorsal posture, and the accoucheur should grasp the uterus with his left hand to ascertain its tone. When this is good, he retains his grasp merely to note if the uterus relaxes. When good pains come on, he does not consider it necessary that these should be helped by the practice of expression, or what is known as Credé's method. In a normal case, the risk is that the placenta, bulky as compared with the membranes, may be squeezed out too soon, and parts of the membranes left behind.

When, however, the placenta remains in the uterus half an hour after the delivery of the child, expression should be tried, but only with the left hand. After some practice, one can tell whether the placenta can be expressed or whether adhesions are present. In the former case, the accoucheur feels the uterus diminishing in bulk as the placenta is expressed; whereas, in the latter case, no impression is made on it by moderate pressure.

When the placenta is in the vagina (a condition recognized by the altered shape of the uterus), but does not soon appear at the vaginal orifice, slight downward pressure in the axis of the brim will help its expulsion. If more than slight pressure is needed, the question must then arise whether the retention is not due to non-separation of part of the membranes. The cleansed fingers may be passed into the vagina, the presenting part of the

placenta laid hold of, and gentle traction in the proper axis will effect delivery.

When the placenta is detained in the vagina, it is sometimes convenient to place the patient in the semi-dorsal posture, to draw down and back the posterior vaginal wall with the cleansed fingers, so as to straighten it; and then, by slight downward pressure, with the external hand in the axis of the brim, to effect delivery.

In those cases where uterine action is feeble, expression is of the very greatest value. It then imitates the natural process, and places such a case on a level with the normal. The uterus should be grasped with the left hand as fully as possible, the thumb being in front and the fingers behind. It is then squeezed firmly in the direction of the line joining the finger and thumb, without any downward pressure.

In partial adhesions of the placenta, or in adhesion of the membranes, the practice of expression is in the highest degree dangerous. The non-adherent portion is separated and forced down and out, while bits of the placenta or membranes are left behind, exposing the patient to septicæmic risks.

When morbid adhesions exist, the accoucheur must separate them manually, using all antiseptic precautions. The hands must be thoroughly cleansed with corrosive sublimate solution (1 to 2000), and a vulvar and vaginal douche (of 1 to 4000) given. After the separation, the douche of 1 to 4000 must be repeated, the amount of introduction of the tube depending on the extent of the internal manipulation. In this, as well as in a natural case, it is well to have the diapers used in the puerperium dipped in corrosive sublimate (1 to 2000), and dried, or the discharge received into sublimated wood-wool wadding.

THE TREATMENT OF EPIDIDYMITIS BY OIL OF YELLOW SANDAL-WOOD.

The general opinion as to the action of sandal-oil on gonorrhœa is that it becomes excreted by the urine, and during micturition comes in contact with the mucous membrane of the urethra, thus acting as an injection. The correctness of this view is open to question, and its falsity is almost established by the favorable effects obtained by Dr. Wharry (*Annals of Surgery*, November, 1885) in the treatment of epididymitis with sandal-oil. He reports four cases of swelled testicle in which the internal administration produced in all a cure within a few days. Dr. Wharry was also successful in two cases of gonorrhœal rheumatism by the use of this oil used internally. In both cases the symptoms disappeared within a few days.

ALOIN AND ALOETIN IN THE ANIMAL ORGANISM.

Justus Dietrich has recently been making a study of the fate of aloin and aloetin in the animal organism. The principle which he terms aloetin is not the so-called amorphous aloin for which the name has been used by some writers, but is the principle discovered by Zcumplik in aloes which is soluble in benzine and makes a red color with alkalies. Mr. Dietrich finds that the aloin is partially absorbed from the intestine as aloin, the greater bulk of it, however, passing directly through the alimentary canal, and being thrown off with the fæces. The absorbed aloin has been recognized by him in the blood, but is rapidly in great part eliminated through the kidneys; a little of it is thrown off by the liver, and with the bile passes back again into the alimentary canal. The aloetin acts in the organism very much the same as does the aloin. As in almost all his experiments Mr. Dietrich failed to find more than a trace of aloin in the duodenum or jejunum, he believes that this is due to a very intense action of the aloin in increasing the peristalsis of portions of the intestine, and itself being thereby hurried out of the bile. An equally plausible explanation of the matter is, however, that the aloin is absorbed in the stomach and excreted by the lower bowel, so that that which is found in the contents of the lower bowel has really passed through the circulation.

IODIC PURPURA.

At a meeting of the Harveian Society, held October 15 (*British Medical Journal*, October 24, 1885), Mr. A. Q. Silcock related the case of a woman who was admitted into St. Mary's Hospital on account of proptosis. Although no history of syphilis could be obtained, iodide of potassium was prescribed in 10-grain doses three times a day. After the lapse of thirteen days the dose was increased to 15 grains; seven days later a purpuric eruption appeared, most marked on the legs. Arsenic was then prescribed, in combination with the iodide, the rash disappearing after three days. The arsenic having been discontinued, the spots recurred in an aggravated

form. Five minims of liquor arsenicalis were again added, and this was followed, in six or seven days, by a disappearance of the eruption and by general improvement. Arsenic was omitted; the rash again returning after ten days, accompanied with malaise and some catarrh. After this the patient lost courage and ceased to take her medicine regularly. A few months later the iodide was again prescribed, and once more slight purpuric spots appeared after a few days, when the drug was finally omitted, the case being regarded as one of exostosis or of ossifying chondroma. In his remarks, Mr. Silcock rejected the view that the effect was due to increased diapedesis, such as is said to follow the intravenous injection of salines. Arsenic was prescribed in the hope that it might possess the same specific influence which attaches to its administration in bromide eruptions. He believed that it was frequently prescribed conjointly with iodide of potassium, especially at the Lock Hospital.

In the discussion which followed, DR. CHARLES RENNER expressed doubts as to any antagonism between the drugs, and suggested that the case was one of idiosyncrasy, while MR. MALCOLM MORRIS alluded to the rarity of recorded cases of iodic purpura. The exceptional case published by Dr. Mackenzie deserved mention, the child having died from purpura after a single dose of 2½ grains. Even in the rash of bromide, arsenic after a time lost its beneficial effect. The paper was of great value as demonstrating that purpura was not a disease, but a symptom. DR. LEES considered the case one of idiosyncrasy; in cases of meningitis he had administered to children large doses of iodide of potassium (3 grains every three hours) for weeks and months, without any toxic effects. Children were more liable to the rash of bromide, adults to that of iodide of potassium.

THE LOCAL APPLICATION OF CHLORAL IN DIPHTHERIA.

JOFFROY, of the Paris Children's Hospital, uses for the local treatment of diphtheria no other drug than chloral, and reports in the *Journal de Médecine*, No. 3, 1885, fifteen cases of diphtheria all cured by chloral, applied either as a gargle or irrigation, or by touching the affected parts with the solid crystals.

The irrigations—to be used with an irrigator—consist of a solution containing fifteen grains of the drug to every five ounces of water; one quart of this solution may be prepared in all, and is to be applied every two hours during the day and twice at night. In the intervals the gargles are to be used, which are of the same strength as the irrigations. Before and after the meals it is also advisable to use the gargles in order to avoid the ingestion of false membranes and the contact of easily-putrefying substances, such as milk, with the affected parts.

The cauterization is made by a solution of one part to fifty, and applied either by a sponge or brush, and is to be executed with care and gentleness in order to avoid erosions, which might become the seat of autoinoculations, and to avoid any concentrated cauterization. These applications, repeated frequently, soon produce a scarlet hue of the membranes, and then usually prevent their reproduction.

Joffroy's local treatment recommends itself to those not satisfied with the therapeutic procedure in vogue in this country.

TREATMENT OF CHOREA.

At a recent meeting of the Harveian Society DR. W. B. CHEADLE, after referring to the failure of innumerable specifics, and to the scepticism too widely engendered therefrom, declared his own belief in the value of medicinal treatment (*British Medical Journal*, October 24, 1885). Speaking from the careful notes of one hundred and sixty cases observed during a period of eight years, he stated that the average duration of the disease, under treatment, had been five weeks (the extremes being ten weeks and four days); whereas cases without treatment might extend from eleven to fifty-two weeks, or indefinitely. The author had tried various methods, including rest and expectancy, with results sometimes beneficial, but never completely successful. In arsenic he had at last found an agent which did succeed. Todd, as long as forty years ago, had recognized its power: so had Babington and Begbie; but dread of the poison had checked their use of the remedy. Dr. Cheadle proceeded to narrate some striking cases of rapid improvement under the influence of ordinary doses of liquor arsenicalis, with small doses of tincture of perchloride of iron. A comparison of long series of cases treated without arsenic and with arsenic, respectively, gave for the former an average duration of forty days; for the latter, twenty-nine days; and this difference was increased when the last fifty-eight cases were compared with fifty-eight consecutive cases in the for-

mer series, the average duration under arsenic being only twenty-four days. Arsenic was in every case well borne, excepting a remarkable result repeatedly observed by the author, but not hitherto described by others, namely, a bronzing of the skin analogous to that observed in Addison's disease. The staining was most marked in the flexures, did not affect the face, and ultimately disappeared. In one case, however, it had become permanent, but would probably vanish in time. The pigment deposited was not metallic, as in discoloration by silver, but resembled the pigmentation due to chronic congestion. In conclusion, whilst advocating arsenic in chorea, the author did not wish to depreciate the value of other therapeutic agents, which should be employed concurrently.

QUININE BY INUNCTION.

Dr. William M. Moore states in the *Peoria Medical Monthly* for October, 1885, that having to treat a little girl of seven years of age suffering from remittent fever to whom it was impossible to give quinine by the mouth, on account of the struggles which were necessary at each dose, he therefore administered the quinine by inunction, mixing up about three or four times the daily dose of the quinine with lard, and directing to rub ⅛ of the mass thoroughly every three hours over the abdomen and inner surface of the thighs. In three days the patient was rapidly convalescing, while her brother, who had a less severe case, and took quinine by the mouth, did not become free of the fever until the fifth day of treatment.

THE PREVENTION OF MAMMARY ABSCESS.

Instances are not infrequently met with where the function of lactation is either not considered advisable, as in cases of syphilitic taint, marked tendency to phthisis, epilepsy, etc., or where, from the child being still born, or the nipples depressed, subject to cracks, fissures, or erosions, the function of lactation is unnecessary or unable to be persisted in. Apart from these conditions there is unquestionably a growing tendency for mothers to avoid the responsibility of suckling their offspring. Milk is secreted, and if it be not drawn off at appropriate intervals the breasts become engorged, and not unfrequently inflamed, mammary abscess resulting. From whatever cause it may be, we are often obliged to take steps to prevent such a contingency.

For many years the old-fashioned methods in general vogue, if not advocated, were at least tacitly acquiesced in, such as rubbing the breasts with sweet oil, oil and extract of belladonna, glycerin and belladonna, belladonna plasters, evaporating lotions, strapping the breasts, and other like expedients.

It being believed that friction of any kind in the large majority of cases rather tended to produce than prevent mammary abscess, it was long since discarded. The application of a long strip of belladonna plaster, sixteen or eighteen inches long and six or eight inches deep, with round apertures, so as to leave the nipples free, tightly across the chest, the breasts being brought well up towards the median line, for many years was the only resource adopted, beyond careful regulation of the diet, abstention from fluids, gentle purgation, etc. This method never failed: but it was often found that the smell of the belladonna produced so much nausea in delicate patients as to preclude the employment of it.

Thinking that in all probability the pressure exerted contributed greatly to the advantage derived, Dr. Arthur W. Edis (*Brit. Med. Journ.*, November 7, 1885) was induced to rely upon a few turns of a rib-bandage, or the application of a thin towel or diaper across the chest, the breasts being brought well towards the sternum. Since adopting this method he has never known it fail. Not a single instance of mammary abscess has occurred in a long series of cases, extending over several years. The only precaution requisite is to apply the pressure on the second day following parturition, before the breasts begin to fill, and to see that the whole of the glands are included.

It is well to elevate the shoulders somewhat more than usual, and not to allow the bedclothes to cover the upper part of the chest, the sheet alone sufficing to prevent any risk of chill. Restriction as to the amount of fluid for the first few days and attention to the bowels are all that is requisite to insure success. Some little inconvenience—a feeling of tightness or burning pain—is often experienced; but if the pressure be maintained no harm results, and within the course of a few days the turgescence subsides and the difficulty is at an end.

In order to keep the bandage or towel from slipping down, a shoulder-strap from back to front, or merely pinning the bandage to the night dress, suffices.

Where the secretion of milk seems to be unusually abundant, a mixture of bromide and iodide of potassium may be prescribed with benefit. In only a very few instances has it been found requisite to draw off a small quantity of milk by means of a breast-pump or exhausted soda-water bottle, and this only once or twice.

ON THE CAUSE AND THERAPEUTICS OF INSUFFICIENT LACTATION.

We abstract the following noteworthy *résumé* of the cause and therapeutics of insufficient lactation from a paper of Dr. Dolan, appearing in the *Allg. Wien. Med. Z.* and *La France Médicale* (No. 71, 1885):

1. A therapeutic action on the secretion of milk is only possible through the blood.

2. All liliaceæ, cruciferæ, solaneæ, and umbelliferæ pass from the blood into the milk.

3. There are no veritable galactogenic remedies; the action of jaborandi is uncertain.

4. Belladonna is an antigalactogenic drug.

5. The proportion of the salts in the milk can be augmented by medicines.

6. Diuretics and purgatives can be administered to the child through the milk of the mother.

7. Dietetic and hygienic means improve both quantity and quality of the milk.

The causes of insufficient lactation are:

1. Insufficient formation of the glandular utriculi or of the epithelium. In this case treatment is useless.

General plethora can be suppressed by appropriate diet and castor oil.

2. Torpidity of the mammary glands; electricity, warm poultices, and cupping will relieve this condition.

3. General anæmia and insufficient alimentation. Dolan regards the presence of dental caries as very important in this respect; the country-women, who usually possess faultless teeth, can also nurse their children best.

THE SUBCUTANEOUS INJECTION OF QUININE.

The occasional necessity for the injection of quinine subcutaneously, not only in severe malarial affections, but also for antipyretic purposes, must have compelled many physicians to reflect on the best methods of avoiding the disagreeable consequences which too often follow such a use of most of the salts of that drug. So frequent, indeed, are the unpleasant sequelæ of this mode of employing them, that most practical men probably only reluctantly resort to it, where no other channel for the successful administration of the medicine seems available. Such results, with the addition of the more serious occurrence of tetanus, have already been referred to in the GAZETTE, and DR. AITKEN places on record, in the *British Med. Journ.* for October 10, 1885, the occurrence of various serious complications after the subcutaneous use of quinine. Of these, the most important have been one of a form of septicæmic poisoning, one of violent inflammation in the course of the veins, and one of a long-persistent and very painful sciatica, all of which seemed certainly to be justly attributable to such hypodermic injections. Less important local evils are, of course, relatively much more common. Irritability and extensive erythema, ulceration of the skin, and abscesses at the points of injection, and painful and lasting inflammatory indurations of the subcutaneous cellular tissue, are the most frequently observed of the minor injurious effects. Even when no local mischief ensues, the mere temporary pain accompanying the hypodermic injection of salts of quinine has been so marked as to induce many practitioners to try to mitigate it by adding morphine or atropine to the solutions they employed. It is probably owing to the unsatisfactory results from all such combinations, that nearly every one who has been forced to make any extensive use of quinine subcutaneously has thought it necessary warmly to recommend some one or other of its salts, or combination of its salts with other drugs, as the only effectual means of preventing the accidents which have been alluded to.

It is generally in violent and pernicious malarial complaints, in which both the stomach and rectum are so irritable that medicines are not retained long enough to permit of their satisfactory absorption into the system; or where, without such irritability, there is some mechanical obstacle to the administration of food and medicine by the mouth, and we wish to reserve the rectum for the purpose of nourishing the patient; and occasionally, too, in a few cases of hyperpyrexia, in which the danger from excess of heat is imminent, while other methods of reducing the temperature are contraindicated, and every minute is of value, that resort must be had to the hypodermic injection of such powerful antipyretics as quinine in quantities likely to produce a rapid fall of temperature. There are probably great differences of opinion as to the

doses required under such circumstances, but it is often necessary, more than once, to put as much as thirty grains of quinine under the skin in a few hours' time. As it is scarcely possible to inject more than five grains at any one point—smaller doses, indeed, such as two or three grains, being distinctly preferable—the number of injections, and the pain produced, are matters of no small importance. The method Dr. Aitken has latterly adopted has given decidedly better results than any previously tried, and can be stated in a few words. The two best salts of quinine to use are the bisulphate and hydrochlorate. Both are fairly soluble without acids, but the bisulphate has the advantage of being considerably the cheaper. One grain of that salt will dissolve readily in six minims of equal parts of the purest glycerin and of distilled water at the temperature of the body, and when thrown, at that temperature, into the looser subcutaneous cellular tissue—the only part into which quinine should be injected—will be rapidly absorbed without deposition of any crystals of the drug. To this solution two per cent. of pure carbolic acid must be added. Thirty minims of such a solution, containing five grains of the bisulphate, may then be used for one injection from a syringe of double the average capacity,—now, as a rule, just about fifteen minims; and although it is probably better, as previously mentioned, to inject less at one point, no local or general injurious results have followed the numerous applications of the maximum quantity stated, which have been made since Dr. Aitken has been in the habit of adding the carbolic acid to the diluted glycerin-solution of the quinine. The local anæsthetic action of the carbolic acid, too, is unquestionably of great value in diminishing the pain attending the hypodermic use of such an irritating medicine as quinine.

In this connection the following formula, published by Dr. G. D. McREDDIE (*Indian Medical Journal*, October, 1885), is of interest, because its employment, beyond slight local irritation, is claimed never to have produced any untoward results. It is as follows:

Quinine, gr. i;
Citric acid, gr. v;
Water, 60 minims.

A smaller proportion of citric acid will not dissolve the quinine; but one grain of the latter thus given is equal to five or six grains, if not more, of the drug when taken by the mouth.

THE ACTION AND USES OF DIGITALIS WITH SPECIAL REFERENCE TO STROPHANTHUS.

As the action of digitalis has become better and better known, it has been found that a considerable number of other substances possess the same action as digitalis. These articles were made the subject of the address before the Section of Pharmacology and Therapeutics at the recent meeting of the British Medical Association by Professor THOMAS R. FRASER (*British Medical Journal*, November 14, 1885), of which the following is an abstract:

In this digitalis group there are included, besides digitalis and its active principles, such other substances as scillain, from *Scilla maritima;* adonidin, from *Adonis vernalis;* convallamarin, from *Convallaria majalis;* antiarin, from *Antiaris toxifera;* helleborein, from *Helleboris niger;* oleandrin, from *Nerium oleander;* and erythrophlœin, from *Erythrophlœum Guineense.* Some of the principles are soluble in water, while others are insoluble; and I have thought it of sufficient interest to place together those which are soluble, as this property has a distinct bearing on the therapeutic value of medicines. They are convallamarin and helleborein, which are freely soluble; and digitalin, antiarin, thevetin, euonymin, adonidin, and oleandrin, which are only slightly soluble. The greatest number of them, therefore, cannot easily be dissolved in water.

In regard to the pharmacology of these substances, the most important action they exert is upon the circulation. They all increase the action of the heart, and they do so by increasing the strength of its contractions, and particularly the contractions of its ventricle or ventricles. There is a difference of opinion as to the manner in which the action on the heart is produced. Some pharmacologists believe that the nerve-apparatus of the heart is directly stimulated, while others believe that the action is produced by a direct influence on the muscle alone; but, while a difference of opinion exists in regard to the production of the former action, no difference exists in regard to the latter. It is acknowledged that all of them have a powerful direct action upon the muscular fibre of the heart, and not only on the muscular fibre of the heart, but also on striped muscle, wherever it occurs. They are, therefore, muscle-poisons, when given in sufficient quantity.

The action which they produce upon the circulation is followed by various secondary

effects. The first of these is an increase in blood-tension. This is undoubtedly produced by an increase in the strength of the heart's contractions; but it is generally believed that the influence of the strengthened heart's contractions in producing this effect is aided by an action upon the blood-vessels themselves, whereby they are stimulated to contract. The production of this contraction has been explained in various ways; sometimes by an action on the vaso-motor centres, sometimes by an action on the vessels themselves, and sometimes by a combination of these two actions.

Another important secondary action is the production of diuresis. It is clearly explicable by the increased blood-tension, however, that may be brought about; but the view is also maintained that the renal secreting function is stimulated in a more direct and special manner.

A third action is a reduction in temperature. It is occasionally decidedly produced; but when the members of this group are contrasted with other, and now more generally employed, antithermals or antipyretics, they must be placed in a much lower position. The explanation of this antipyretic action is probably to be found in the more equal distribution of the blood that is produced throughout the body, resulting in a larger quantity being distributed to the surface.

Increase in the strength of the heart's contractions, and increase of arterial blood-tension, whether it be produced by an augmentation in the strength of the heart's contraction alone, or by this augmentation aided by a reduction in the lumen of blood-vessels, constitute the pharmacological effects which are the main explanations of the therapeutical benefits obtained by the employment of digitalis, and of similarly acting substances.

Of all these substances digitalis is the one which is almost uniformly employed to produce these actions. It is well known, however, that its use is frequently attended by many inconveniences, but the substances which might replace the use of this drug have not been found to possess any distinct superiority over it. It seems, however, that in strophanthus a remedy has been found which exerts a more powerful action upon the heart, and at the same time produces fewer secondary actions. Strophanthus (hispidus?) is used in Africa as an arrow-poison, and belongs to the natural order of apocynaceæ, and is widely distributed throughout equatorial Africa. The seeds are very active, and when coarsely ground and formed into a paste, constitute the poison with which arrows are smeared. A long time ago Dr. Fraser separated a crystalline body from this seed, having a strongly bitter taste, feebly acid reaction, readily soluble in water and alcohol, and insoluble in ether, chloroform, and benzol. This substance, which is termed strophanthin, is a glucoside, and is evidently the active principle in the seeds themselves. Strophanthus is a muscle-poison, however, introduced into the body.

In lethal doses, it destroys besides the capacity of the muscle to assume the normal state of partial flaccidity, and causes the rigidity of contraction to become permanent, and to pass into the rigor of death. As a result of the action on muscle, the heart is early and powerfully affected. It receives a larger quantity in a given time than any of the other muscles of the body, and therefore it probably is that strophanthus affects its action more distinctly and powerfully than the action of the other striped muscles. Indeed, by regulating the dose, a very distinct pharmacological influence may be produced upon the heart, while the other muscles remain apparently quite unaffected.

The changes which Dr. Fraser found to occur in the heart's action are the ordinary changes that have been frequently described in the case of digitalis, and of other members of this group. The systole of the heart is increased, and its contractions are slowed by small doses; it is paralyzed in a condition of rigid systolic contraction by large doses. This action is produced if the influence of the cerebro-spinal nervous system be altogether removed; and, with lethal doses, the heart, like the other muscles of the body, passes at once from the condition of pharmacological systole into the rigor of death, with an acid reaction of its muscular fibre. Curiously enough, another rhythmically * contracting muscle, the lymph heart of the frog, is but slightly affected by the action of strophanthus.

The action upon the heart, which is thus briefly described, is accompanied by a rise in blood-pressure, which appears to be directly produced by it, and, in certain conditions, by an increased secretion of urine, and a reduction of temperature.

As these effects constitute the foundation of the use of digitalis in disease, Professor Fraser employed a tincture made by percolation with quantities prescribed in the British Pharmacopœia for tincture of digitalis, administered in doses of from 4 or 5 to 20

minims. He has used this tincture in five cases of different natures, in which the effects of digitalis were indicated, and in some of which digitalis had already failed, with a decided benefit in each instance. From further experiments, Dr. Fraser found that strophanthus exerts a more powerful action upon the heart and a less powerful action upon the blood-vessels than digitalis. As to what the exact significance and therapeutics of this drug may be, he is not prepared to say. On first consideration, however, the advantage seems to belong to strophanthus in the treatment of cardiac disease at any rate. In any difficulties and embarrassments of the circulation depending upon a central cause, it seems preferable to act upon the heart alone rather than also to increase its difficulties by closing the blood-vessels into which it must empty itself. It may possibly be the case that some of the benefit which digitalis might otherwise cause is antagonized by the action it so strongly produces upon the blood-vessels, and that this latter action evidently may even render large doses dangerous when they are given to a much weakened heart. Finally, Dr. Fraser gives a number of conclusions as to the indications which call for the digitalis group of drugs. They may be used with advantage in all weak states of the heart, whatever be the cause of weakness, and are most satisfactorily employed in mitral disease.

They do little, if any, good when the cardiac muscle has undergone much degeneration; they sometimes fail, even while degeneration is absent, when lesions of the orifices throw too great a burden upon the heart, and they are injurious when sufficient compensatory changes have been produced.

They are valuable as diuretics; and it appears from the experiments made by Dr. Fraser with strophanthus that the diuretic action can be produced by substances which have only an insignificant action upon blood-vessels.

They are antipyretics, but in regard to this action Dr. Fraser has no special experience to describe. In the case of strophanthus he has occasionally seen pyrexia disappear, and very frequently the charts of his apyretic cases exhibit a subnormal temperature.

The hæmostatic action, which seems clearly to be possessed by digitalis, finds a satisfactory explanation in the marked effects produced by it upon the blood-vessels. Experiments with strophanthus, however, show that it is not an action possessed by all the members of the group.

And, lastly, as all the members of the group act directly upon striped muscle, there seems no reason to doubt that the ecbolic action possessed by digitalis is an action common to them all.

As to the inconveniences and disadvantages which are associated with their application in disease, an experience, no doubt, somewhat limited, seems to warrant the statement that sickness and gastro-intestinal disturbance are not produced so frequently by strophanthus as by digitalis; while there is not yet any distinct evidence of accumulation, with its consequent manifestations of intolerance, in the cases in which strophanthus has been administered, even for several weeks uninterruptedly.

The therapeutical applications of digitalis are among the most valuable of those producible by substances used as remedies. The fundamental basis of these applications is to be found in an action possessed also by a considerable number of other substances. There is reason to hope that one or other of these substances may in some respects be even more valuable than digitalis as a means for applying to the treatment of disease the characterizing pharmacological action of the group.

Reviews.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1884. Vol. I. Edited for the Association by Austin Flint, Jr., M.D. New York: D. Appleton & Co., 1885.

These Transactions will well repay the reader. The opening addresses, three in number, are able. That on medicine has Conservative Progress for its subject. The address of Dr. E. M. Moore on the subject of Transfusion will again call attention to the possibly great value of that procedure under certain circumstances. This is followed by Dr. Joseph C. Hutchinson's article describing a new transfusion apparatus. A paper by Dr. Alfred Ludlow Carroll on "The Duration of Contagiousness after Acute Infectious Diseases" is timely, and may in the end prove useful to perplexed physicians suddenly called on for school certificates. The general form of certificate requires the medical attendant, after a case of contagious disease in a child attending school, to certify that there is no danger of the convalescent conveying, or other scholars contracting, the disease from the child's return. This certification is somewhat difficult in the absence of definite rules,

and so careless are teachers in our public schools in their strife for high averages, and scholars in their desire to meet their teacher's wishes and secure their own promotion, and so willing are parents to rid their homes for a few hours a day of troublesome children, that the law is almost a failure and its enforcement a farce. A strict adherence to the rule, based upon even the most moderate view of the duration of contagion, would, in the opinion of competent observers, have in many winter seasons depleted the schools or often closed them, or, to use the language of an intelligent lady teacher, "The public-school system is incompatible with the real enforcement of any such rule." Dr. Carroll in this paper lays down no definite rules, but strives rather to show how unsettled the question is. Addressing by letter many leading medical teachers and hospital physicians, he has found such variety in their answers as to make evident the uncertainty surrounding the whole question. On the subject of smallpox and scarlatina the answers show some unanimity; in typhoid fever and diphtheria wide divergence. We would scarcely like to expose children to the contagion of whooping-cough from convalescents who contracted the disease eight weeks before. One observer answers Dr. Carroll indefinitely in regard to the disease, saying that the contagion resides wholly in the breath, and apparently believing that as long as the child can breathe it can convey the disease,—a happy view for one whose cases have all terminated unfavorably. As to measles, there is all the difference between the fourteen and twenty-one days from its inception, and, in short, there seems no generally accepted rule at all. Had Dr. Carroll addressed his letters to a large number of general practitioners the results might have been more satisfactory. He might do good service by continuing his observations and inquiries.

Dr. J. W. Moore, of Albany County, contributes "The Therapeutics of Diphtheria," always a practical subject and one eagerly sought after. Dr. E. R. Squibb, in "Modern Progress in Materia Medica and Therapeutics," lauds the fluid extracts and the simple method of prescribing. He pays a high tribute to the vast class of physicians who are close observers, "who read much, but rarely write, who are rarely seen at medical societies." These are the men who, according to Dr. Squibb, practise on fifteen drugs a year, mostly fluid extracts, who realize that success depends on "real utility to the public," who are by no means interested, though they may be amused, by scientific and abstruse research. Disbelief in specifics and cures, a wider range of dose, a disappearance of polypharmacy, a closer scrutiny of the *quality* of *medicines*, these are the points in which we are improving; but "it should not be inferred that all the prominent changes in relation to the materia medica within the past few years have been improvements," and in this sentiment at least we heartily coincide.

Dr. Frederic Hyde contributes notes on Dislocation of the Hip, based upon two hundred and seventy-three cases occurring in New York State. Dr. John S. Jamison writes on Chronic Intestinal Catarrh. Among the causes of the disease he mentions acute serous painless diarrhœa in adults, and considers it probable that the diarrhœa of infants in dentition may be one of the causes of chronic catarrh in after-life. A tumid or pendulous abdomen below the navel is a strong diagnostic sign. As a summary of general symptoms "it is quite safe to diagnosticate" it when, with a history of acute diarrhœa some months or years before, we find "general dyspeptic symptoms, with alternating constipation and diarrhœa, uneasiness in the hypogastrium one and a half or two hours after meals, accompanied by flatulence, weary, aching, or rheumatoid sensations in the lumbar muscles; dizziness; disturbed sleep; the tongue thick; irregular appetite and craving for hot, pungent articles of food at meals, and general despondency."

The prognosis the author considers always grave, even in middle life, not from its early fatality, but from the steady progress downwards from impaired nutrition. Under treatment the writer still more gloomily says, "From the first it involves the nutritive powers in progressively increasing failure, resulting in marasmus, sooner or later, except when an intercurrent disease produces death. Medicines are nearly or quite impotent to cure." This is all very sad, but diagnosticating the cases by the author's rules we think they will be much more curable than he supposes; that medicine is not inert, and that modifications of diet, which he does not mention, may so *nearly* cure such cases as to even deceive the author. Certainly the general impression produced by the author upon the inexperienced beginner would be such that he would look upon most dyspeptics as doomed to an early death, while the cases of chronic intestinal catarrh would be diagnosticated by him as something quite different.

Dr. Avery Segur contributes an article on Intestinal Obstruction. The writer advocates a plan of treatment formed from several post-mortems and suited to the class of cases where, when first seen, there are no definite indications calling for surgical interference; in short, the cases where the bowels seem not to be obstructed, but prove afterwards to have been so.

This consists in allaying pain by morphine and atropine, keeping up the action of skin and kidneys, avoiding purgatives and laxatives, but using enemata of 4 ounces of flax-seed-tea every two hours, every third enema being of beef-tea or some nutrient fluid. Now, while there is nothing new in the plan recommended, and while it is always employed by sensible men whenever they recognize that they are in the presence of real obstruction, the error in these cases is reached by a failure to apprehend the gravity of the case at first, and this is due to a total want of clear diagnostic differences between these cases and the so much more frequently occurring cases of overloaded and sluggish bowels and disordered digestive apparatus. The writer should, to be of real service, have gone further and advocated his plan of treatment for all cases in which there was even a shadow of suspicion of obstruction. Yet here again he would soon find that by an excusable error cases of overloaded and impacted bowels were being treated by the expectant method with morphine and atropine, and with disastrous consequences.

Dr. Wm. H. Robb's paper on "The Management of Criminal Abortion" merely enforces the necessity of rapid dilatation of the cervix, removal of the membranes, and the use of the uterine douche, and opposes any dependence on ergot, since this drug fails to arrest hemorrhage in early abortions.

"A Case of Lead-Poisoning," by R. H. Sabin, M.D., relates briefly the history of a sudden and fatal illness in a person exhibiting the blue mark on the edge of the gums. In "Chronic Mercurial Poisoning" Dr. Charles Buckley narrates a case where the symptoms —rather those of arsenical than mercurial poison—were to him quite clearly referable to the wearing of a set of artificial teeth on a red plate. "Pyæmia and Death after Operation for Strabismus Convergens" narrates another isolated case. "Errors of Refraction; the Importance of their Recognition and Correction in Early Life," by Dr. H. E. Mitchell, calls attention to one of the often slighted affections of childhood.

"The Dietetic Treatment of Dyspepsia," by Dr. Austin Flint, deserves more than a passing notice. It heralds the revolt from all the dietetic rules of the past. In its perusal the glutton chuckles and the man of stern self-restraint who has fought his appetites for years sighs. To support his view Dr. Flint forcibly separates once more two words which have been for years rapidly coalescing in meaning,—Dyspepsia and Indigestion. Dr. Flint restricts his advice to those cases "not characterized by nausea, vomiting, flatulence, acidity, and diarrhœa," —the nervous dyspepsia of "late German writers." These cases—and it is important to know just what kind of cases they are to whose appetite Dr. Flint would give loose rein—suffer from weight and oppression in the stomach after eating, sometimes tenderness on pressure, or even absolute pain. The appetite may be lessened, but is often increased; they have "goneness;" they are also "depressed, irritable, hypochondriacal;" have no energy, no mental or bodily endurance; vertigo and neuralgia in head are frequent; insomnia and disordered heart-action often; constipation always is a symptom. This condition of things, the author previously remarks, may be mixed up with true indigestion, but, taking the group of symptoms enumerated, Dr. Flint is inclined to believe that the trouble is very largely mental. To combat the mental bias—this tendency to regulate diet, to avoid so-called "disagreeing food," to eat only at stated intervals, to rise from the table still hungry—is Dr. Flint's effort in this paper. We are to eat what we want, when we want it, and as much as we want. Who and what is a glutton but the man who, following these precepts, is by nature provided with a disposition to want many things, and much and often, in the way of food? We shall have to delete the word glutton, or make it synonymous with "reformed dyspeptic," in future. Dr. Flint, we observe, has nothing to say about the cases of dyspepsia which originate in that class of individuals who have always from infancy followed their inclinations in eating.

Personal experience, we are told, is very fallacious. Because we have found a thing to disagree with us is no reason for avoiding it; rather the contrary. Again, Dr. Flint advises eating often, eating between meals, and late at night, in regard to the last matter saying "insomnia is often attributable to hunger." But is it not more often clearly due to gorging at night? So far as good cooking is recommended, we can cordially

agree; and also, that of two articles presented that one will most probably agree best which is most desired, provided it has not in the past proved disastrous. In short, it seems to us that Dr. Flint's dyspeptics are not what the world in general considers as dyspeptics; their digestive difficulties are less severe; and the author did well in disconnecting dyspepsia from indigestion. Both are, strictly speaking, erroneous terms, dyspepsia, his own "Dyspepsia," being shown, in his own quoted footnote, page 142: "Leube has demonstrated the existence of nervous dyspepsia without *any disturbance* of gastric digestion." Therefore the dyspepsia was not difficult, since there was "not any disturbance;" while indigestion, so far from implying that digestion fails to occur, merely means, at the most, that it is incomplete.

Dr. Flint's dietetic treatment is applicable to only a limited class of dyspeptics,—to dyspeptic monomaniacs, in fact; the people who think they have lizards and frogs in their stomachs, and who have been traditionally cured by emetics and the exhibition of a reptile in a basin. The broad value of the paper, apart from the management of these cases, lies in its forcible presentation of the dangers of too plain and restricted a diet, and the recognition of that instinct in man which, within limits, may be trusted to find out what is best for him to eat,—an instinct too often, we fear, hopelessly perverted by ages of false training and artificially-prepared food, but still occasionally asserting itself and proving incontestably by results its original power.

"A Successful Case of Nephrolithotomy for Calculus Pyelitis," "A Successful Case of Excision of the Rectum," and "Double Synchronous Amputations" are the titles of the three succeeding papers, following which is one upon the "Function of the Auricles," by U. S. Lynde, M.D. This paper is written to prove that the auricles do not contract. This the author attempts to prove in several ingenious ways, and by the results of many experiments upon animals. The author considers that the *vis à tergo*, plus the suction power of the ventricles, is sufficient to empty the auricles without any resort to true contraction on their part; as they empty they retract, not contract, upon their diminished contents, and distend as they fill. As for mere ocular observation, he considers that it is valueless. In the discussion following this paper Dr. Austin Flint, Jr., however, says, "I have repeatedly seen the auricles contract in experiments on the lower animals." He also denied that there was any "suction power" exercised by the ventricles. The discussion brought out many statements from members in direct opposition to the views expressed in this paper.

Two papers follow on "The Use of the Aspirator in Hydrothorax" and "A New Procedure in Paracentesis Thoracis." The former paper calls attention to the danger of complete withdrawal of the fluid at one time, the latter to a method of separating the ribs to enable a freer exit of fluid to take place.

The address on "Obstetrics and Gynæcology," by Dr. T. Gaillard Thomas, dwells largely upon the benefits of antiseptic procedures, laparotomy in extra-uterine pregnancy and the induction of premature labor, and, in short, upon all the triumphs of modern gynæcology.

Dr. Darwin Colvin's paper "On Venesection in Convulsions of Pregnant and Parturient Women" is worth a careful perusal. From his own experience of forty years, and his father's note-book of fifty years of practice, he argues for the great value of the procedure. He quotes a case of his father's where the inference is that eclampsia was prevented by venesection, stating that he has records of between three and four hundred such cases in the first thirty years of his father's practice. We question whether, without interference, any such number of cases would have developed convulsions, the cases apparently proving too much, unless it be answered that the bleeding did no harm. One case, in which the writer relates his own first effort to substitute chloroform for the lancet, is graphically told and is very impressive.

Papers on "Peat as a Surgical Dressing," "Fracture of the Floor of the Acetabulum," "A Case of Tubal Pregnancy," follow. Dr. Nathan Bozeman contributes "Extra-Uterine Pregnancy, with an Account of Two Cases and their Treatment." "A Case of Ovarian Cystoma," a "Case of Dislocation of First Phalanx of Thumb Backward," of "Rupture of Uterus," of "Fatty Stools due to Organic Disease of Pancreas," follow. Dr. Charles Stedman Bull writes on "Hydrochlorate of Cocaine as a Local Anæsthetic in Ophthalmic Surgery," and Dr. Jacob Hartman on "Protecting the Perineum." This gentleman believes laceration "during the passage of the shoulders should never take place" if reasonable care and attention is exercised. Also, that the great majority of lacerations are caused by the "uncalled for, reckless, and injudicious use of forceps." He adds, for the

benefit of the world in general, "The cases are rare in which instruments are necessary, in multiparæ scarcely ever, and in primiparæ very, very seldom." Of course, with such views, we are not astonished at reading in regard to the perineum when the pains are strong, "Then all the strength possible should be brought to bear upon the anterior margin," etc., and "Then is the proper moment for the accoucheur to exercise all his strength."

Among the remaining seventeen papers we notice Dr. Gray's "A Few Hints on the Prevention of Insanity," in which he advances the curious statement that patients admitted by him are generally without family physicians, and have been accustomed to call in anybody or take patent medicines. His conclusion is that in family practice these cases are seen early by men of intelligence, and so treated that insanity is escaped. He quotes many men of large practice as stating that their cases of insanity were few, while they acknowledged meeting many cases in what Dr. Gray would consider the preliminary stage, which they cured by rest, food, and diversion. But is it not from the very classes who are shiftless, erratic, visionary, who take to specifics and magnetic healing and faith cures naturally, who are so far from any forethought that they have no family physician, or fixed employment, or settled abode, that our asylums are recruited? The facts given by Dr. Gray, however, are well worth considering.

Dr. George T. Hamson's "The Curette, its Place and its Power in Uterine Therapeutics," is of interest, as also is Dr. Lusk's "Management of Breech Cases in which both Extremities are Reflected Upward Parallel to the Body of the Child." Dr. Thomas H. Manley, in "Women as Midwives," argues in favor of women in that capacity. Thinks that the demand for young women is altogether too limited, regardless of the obvious fact that the demand for young men is pretty limited too, but does not consider how many of his midwives, young and intelligent, will develop into practitioners, and knows so little of the real state of things that he denies some one's assertion that there are fifty young doctors in New York City willing to attend midwifery cases without compensation, whereas there are probably three or four times as many who would gladly do it for the sake of experience alone. He evidently looks to a return in the future of the state of things which he tells us existed in New York about the beginning of the century, when only one practitioner in the city took cases of labor.

Dr. Austin Flint's address on "Medicinal and Non-Medicinal Therapeutics" will be found wonderfully suggestive. "False Albuminuria," "Abscess of the Liver," "Membranous Croup," by Lewis Smith, are extremely valuable. "Four Selected Typical Cases of Diabetes Mellitus," not before reported, by Dr. Austin Flint, Jr., calls attention again to the success of a particular treatment, while "Chlorate of Potassium, its Abuses," is evidently written by one who believes it by no means a harmless drug.

We have taken the trouble to notice pretty much all the papers in this volume for several reasons, but mainly because it is quite a model volume of Society transactions. May the succeeding volumes maintain its high standard. E. W. W.

CLINICAL THERAPEUTICS. By Professor Dujardin-Beaumetz. THE TREATMENT OF NERVOUS DISEASES, OF GENERAL DISEASES, AND OF FEVERS. Translated by E. P. Hurd, M.D.
Detroit, Mich.: Geo. S. Davis, 1885.

A medical book which has achieved great success in its own country and been translated into four or five different languages certainly must be looked upon as one eminently successful, and, in all probability, of great practical importance. Such has been the history of the work of Professor Dujardin-Beaumetz, and, after a close examination of it, we predict that it will also secure, as it deserves, a large sale in these United States. It is very curious to remark how race attributes or the influence of modes of instruction and general modes of thought affect an author. If the present volume had had no title-page, and had been put into the hands of any intelligent medical man well read in the world's literature, we believe that he would at once have recognized it as of French origin. It has the peculiarities of so many works born in Paris,—brilliant, suggestive, showing signs of much, although incomplete, learning; often dogmatic, and not always overborne by accuracy.

The name of Professor Dujardin-Beaumetz's book is misleading. It ought to have been called lectures on clinical medicine rather than on clinical therapeutics, as a very large proportion of each chapter is given up to the discussion of other than therapeutic matters. Thus, taking the chapter on Diabetes as an example, we find that the first twelve pages are occupied with an examina-

tion of the theory of diabetes, the methods of testing urine, and the natural history of the disease, whilst the treatment of the affection only occupies the last twelve pages.

As is well known, the use of baths in the treatment of fever has never been received with general favor in France, the intensity of French patriotism apparently affecting the national medical writings almost as much as the after-dinner oratory. Only in Lyons, we believe, has there been any thorough study of the subject, and at Lyons, according to Beaumetz, there is a complete unanimity in reference to the value of refrigerant medication. It is curious to remark that this medical isolation of the city was the result of the chances of war. Dr. Glenard was a prisoner at Stettin during the Franco-Prussian war, and witnessed the treatment of typhoid fever by Brandt. The result was the conversion of Dr. Glenard, who by his enthusiasm and the results which he has achieved inoculated the whole city of Lyons with the German method. In his discussion of this method Dr. Beaumetz is, no doubt unconsciously, unfair, and at times seems even to be self-contradictory. He appears, in pages 350 to 379, to give credence to the German statistics, according to which out of thirty thousand cases of typhoid fever treated by cold baths there was only a mortality of nine per cent., and in the case of civil practice of seven per cent., in the hospitals; whilst the general mortality of the fever as not treated with cold baths is estimated at 19.23 per cent. in civil practice and of fourteen per cent. in military practice. A page or two later, however, Professor Beaumetz makes light of these statistics, and, in fact, of all statistics. As an instance of a style of argument which may be considered Gallic rather than scientific, we quote the following sentence: "In my opinion," he says, "the advocants of the refrigerant medication have committed an error in vociferating, The Hyperexia! Behold the enemy! The hyperpyrexia, as Peter has well said, does not constitute all the danger of the disease, of which it is only one of the manifestations" (page 383). Such writing as this seems to us a distinctly improper use of rhetoric. Sensible advocates of refrigerant medication recognize that hyperpyrexia is only one of the dangers of typhoid fever as fully as did Peter, but they recognize also that the danger is an important one, and that life can be saved in certain cases by meeting it.

We believe this volume represents the best therapeutic thought of France, but we think every intelligent well-read American practitioner who peruses it will agree with us in the opinion that the therapeutics of France as here represented are distinctly behind those of the United States. The chapter upon the Treatment of Intermittent Fever is especially weak. Its author seems never to have heard of the bisulphate of quinine, or of the use of compressed pills as a means of administration. His acquaintance with the literature of the actions of quinine upon the uterus is singularly deficient, and he appears to fail entirely to comprehend the thoroughly established relations of this drug to the uterine functions. His allusions to the cinchona alkaloids other than quinine are very scanty, and not always correct in their assertions. Especially also does he fail in putting forth the great value of mercurials in acute, and of aloes and similar substances in chronic, malaria; and there is no mention of the use of ergot in splenic enlargement. It is not lack of space or lack of time which is the cause of these omissions, for we find about one-third of a page given up to the discussion of the use of spider-webs as an internal medicine in malaria, whilst space is also afforded for the mention of the bones of cuttle-fish and oyster-shells, and some other equally absurd remedies.

We do not wish to be misunderstood. The work of Professor Dujardin-Beaumetz is a very valuable one, and we sincerely hope that it will find numerous readers among us. It looks at therapeutics from a point of view somewhat different from that of the educated American practitioner, and those of us who read it will be abundantly repaid provided it is read with thoughtfulness, a careful effort to weigh evidence and to select out that which is good. To follow this work blindly would not be to improve our therapeutics.

POISONS, THEIR EFFECTS AND DETECTION. A Manual for the Use of Analytical Chemists and Experts, with an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M.R.C.S., F.C.S., etc. With tables and illustrations. Vols. I. and II.

New York: Wm. Wood & Co., 1885.

These volumes, forming the June and July numbers of Wood's Library, are, as the title-pages state, "for the use of analytical chemists and experts," but as no knowledge ever comes amiss, the practitioner and general medical student may find at times that as books of reference they have a value for him. The subject of the cadaveric alkaloids is treated of at considerable length, and is one of the greatest interest, in which our knowl-

edge is as yet meagre, and is destined in the near future to become of greater importance as we know more about it. On page 226, Volume I., will be found a table of the color reactions of several alkaloids. The book is throughout a thorough practical working-book. The latest discoveries in the action of poisons have been carefully studied by the author. Illustrative cases abound, and the mechanical detail of the investigator's work is complete. The historical introductory in constituting part first is both valuable and interesting. English, German, and French law as to poisoning is given, with statistics of poisoning, accidental, suicidal, and criminal. The method of experimenting with poisons upon animals, and the general method of procedure in searching for poisons, are thoroughly studied. E. W. W.

RECENT LITERATURE ON CHOLERA.

A TREATISE ON EPIDEMIC CHOLERA AND ALLIED DISEASES. By A. B. Palmer, M.D., LL.D.
Ann Arbor, Michigan: Register Publishing House, 1885.

CHOLERA: ITS ORIGIN, HISTORY, CAUSATION, SYMPTOMS, LESIONS, PREVENTION, AND TREATMENT. By Alfred Stillé, M.D., LL.D.
Philadelphia: Lea Brothers & Co., 1885.

TRAITEMENT DU CHOLÉRA. Par Georges Hayem.
Paris: G. Masson, Editeur, 1885.

A TREATISE ON ASIATIC CHOLERA. Edited and prepared by Edmund Charles Wendt, M.D., in association with Drs. John C. Peters, of New York, Ely McClellan, U.S.A., John B. Hamilton, Surgeon-General U.S. Marine Hospital Service, and George M. Sternberg, U.S.A. Illustrated with maps and engravings.
New York: Wm. Wood & Co., 1885.

It is like a rift of sunlight through storm-clouds to come across Dr. Palmer's book. Recent cholera literature is an arid and hopeless desert. Dr. Palmer shows us an oasis, perhaps it is only a mirage, but while we have not yet found it a phantasm, it is still a green spot—to us. Dr. Palmer is an optimist; while elsewhere we are overwhelmed with statistics showing how everywhere cholera mortality is much the same dismal record; how our efforts only tend to increase the mortality; how there are germs or there are no germs; how the germs will not die unless the man be killed first; or how there are no germs to kill, but deadly ptomaines have done the work perchance before the victim has felt the first premonition,—Dr. Palmer stands firmly on some ancient ground that he has discovered or reclaimed, and tells about the efficacy of those good old remedies, opium, camphor, and calomel; how to use them, how they have been used, and what favorable statistics exist where men have had courage and hopefulness. His own experience in twenty-five hundred cases leads him to think that when seen early and kept well under control the mortality could be easily kept between five and ten per cent. Yet Dr. Palmer by no means advocates a routine practice. There is field for the greatest acumen, and for the use of experience, in the handling of opium alone: to know when to give and how much; to see the danger-signals that warn us to desist from its administration. The use of auxiliary remedies and the best form in which to administer them are all patiently and minutely elucidated by the author, who has all in all written the most hopeful book on cholera that we have met with as yet.

Dr. Stillé's monograph, succeeding after a very short interval the same author's article on cholera in the "System of Medicine by American Authors," brings the subject nearly up to the present date, and collects, under the author's searching eye, the most recent discoveries and most recent experience in the epidemic of last year. Judged from a distance, the epidemic of this year seems to have added nothing to our knowledge, though time will tell. The author's work, however, is not a compilation that has been well done by others; he has too definite opinions of his own to remain silent. The bacillus of Koch receives but slight favor, and he unhesitatingly pronounces it by no means the cause of cholera; and throwing this aside, in answer to his own question as to what that cause may be, he again carefully enumerates the conditions which such a cause must fulfil, and leaves us to struggle still with the "specific poison which originates in Hindostan." "Regarding the form and nature of that poison," he says, "little or nothing is definitely established."

The chapter on morbid anatomy and pathology presents us with a clear summary of the subject, and its text is rendered still more valuable by the clearness of its style and by the absence of useless matter. Regarding quarantine, in the chapter on prevention, the author speaks to the heart of the average common-sense citizen when he shows how thousands of lives are imperilled and often sacrificed that a few commodities may be more speedily brought to port. He remarks, page 114, "It seems to be overlooked that in national as well as in personal affairs 'honesty is the best policy,' and that if, instead of con-

cealment or false statements regarding the sanitary state of ships, their passengers and cargoes, and equally false assertions respecting the contagiousness of cholera and a contemptuous neglect of well-tried preventive measures, if instead of this delusive and disastrous policy all nations had honestly carried out the rules prescribed by experience for the exclusion of the disease, and for its management after it had passed the frontiers of a country, there can be little doubt that its ravages would ere this have been confined to the region in which it originated." But plainer language, if possible, than this would still fail to effect a change. Who can consider the present summer's appalling epidemic in Spain without seeing that restrictions or total prevention of commerce for limited periods would be vastly cheaper than the endurance of such a calamity?—cheaper in dollars and cents we mean, for any other consideration would fail to appeal to the spirit of modern merchandise. The author disposes readily of the argument against quarantine from its occasional failure: "This is taking counsel of despair, . . . or it may be a sign of the unconscious blindness of mammon-worshippers, who, neither fearing God nor regarding man, have as little pity for the victims of cholera . . . as devout Christians once felt for the negroes." The author gives instances demonstrating the undoubted efficacy of quarantine. He then turns to the subject of local cleanliness and disinfection, or "the stamping-out process," and the question of the relative value of the different disinfectants, which he judges by another rule than their superficially-studied effects on the bacillus.

In the chapter on treatment we have a careful restatement of what various drugs and procedures can be expected to do. The chapter is melancholy in tone and somewhat depressing. The treatment of microbes he denounces as worse than useless, and quotes Lauder Brunton and P. H. Pye Smyth in the illustration of the yeast-plant and alcoholism, in regard to which the fair critic is forced to say that if alcoholism were found to be deepening or delirium becoming more violent in any individual under an absorption of alcohol which was being momentarily increased by yeast-plant in the intestine, then the destruction of the plant would really be one, and perhaps the one effectual means of rescue, if we possessed no antidote to the alcohol already absorbed. The old drugs are brought forward apologetically by the author; they appear, they bow in melancholy silence, disappear in turn. There are no new drugs; all is hopeless. We may struggle on, however; the disease does not kill everybody; if left alone a fair percentage recover. In short, the practitioner in an epidemic with this book for his *vade-mecum* will be deprived of hope and courage at the outset. Better rely on a false hope than on none, for hope in the physician and hope infused from him into the patient may be after all more potent than any combination of drugs in a demoralizing epidemic, when fear may be the entering-point of the disease and courage the agent which turns the scale and rallies the vital forces.

Dr. Hayem's treatise, confining itself to the treatment of cholera, is written mainly to further the author's view of the value of intravenous injections. Judged by his own account of his results, the medical world will still be sceptical as to their great value. He outlines his general treatment. He uses an emetic of ipecacuanha, grammes 1½ to 2 (22–30 grs.), in cases seen early, followed by copious draughts of water; he gives from 10 to 20 drops of tinct. opii in twenty-four hours; uses bismuth and chalk and the vegetable astringents, and the black sulphuret of mercury, in premonitory diarrhœas, in grain doses up to gr. xii. Salicylate of bismuth he regards as very valuable. His objection to mercurials rests on the fact of a saline—chloride of sodium—fluid being frequently found post-mortem in the intestines, and his fear that it might convert the metal into a dangerously active bichloride,—a curious fear from the point of view of the believer in the bacillus of Koch and the germicide power of bichloride of mercury. But the intravenous injection of a solution of five parts sodium chloride with ten to twenty-five parts sodium sulphate to the thousand of water is the real subject of the book. How successful he has been, and how probable anything more than a transient improvement under its use may be, we leave it to the curious to learn from his own words and from the past history of the operation. In his methods and in the solutions he employs we fail to find anything new, though we hesitate to pronounce it useless. It will only save men, anyway, since he considers it impossible to find veins large enough in women and children, for whom he thoughtfully suggests intraperitoneal injection.

Dr. Wendt's monograph is a most timely and seasonable book. Though cholera has not yet appeared in America, its advent is still prob-

able in the near future, and the want of a complete compendium of modern cholera theory and research brought up to the present date has been felt by many. The editor has given us this, and besides this, the comment and conclusion of many celebrated authorities upon the results, practical and theoretical, of this recent work. Scarcely any recent cholera literature of any value is absent from the book in Part First. Dr. Peters opens in Section I. with a General History of the Disease and the Principal Epidemics up to 1885. Dr. Ely McClellan contributes, in Section II., A History of Epidemic Cholera as it Affected the Army of the United States. Dr. Edmund C. Wendt on The Etiology of Cholera contributes Part Second. This contains among other things the Doctrine of Koch and the Cholera Bacillus Controversy. Part Third contains the Symptomatology, Course, Duration, Mortality, Complication, and Sequelæ of Cholera, and is by Dr. Edmund C. Wendt. It is ably written, and contains a vast amount of collated information. Part Fourth treats of Morbid Anatomy and Pathological Histology; Part Fifth, Diagnosis and Prognosis, with a Complete Description of Methods of Bacterioscopy and the Preparations of Pure Culture; while Part Sixth treats of Prevention, Disinfection, Quarantine Inspection, and Military Cholera Hygiene. These chapters are contributed by Drs. George M. Sternberg, John B. Hamilton, and Ely McClellan. The book ends with a section (VII.) on the Treatment of Cholera, General and Special, and a description of Cholera Inoculation, by the editor. In short, one has in the book a complete compilation of cholera literature, and is no longer obliged to hunt up this fact here and another there, and search files of ancient and modern journals, and consult what the poet terms "musty tomes," for in good clear type, condensed judiciously, we have it all here at hand; and in the present natural interest in the subject we know no recent publication which deservedly should be more widely read and appreciated.

THE SCIENCE AND ART OF MIDWIFERY. By William Thompson Lusk, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College. New edition, revised and enlarged. With numerous illustrations.
New York: D. Appleton & Co., 1885.

The appearance of a third edition of this well-known work in less than four years from its first publication is a sufficient guarantee of its value were any needed. As the author states in his preface, this treatise has been translated into French by Doléris, into Spanish by Toledo, and a few months ago a foreign medical journal announced that a translation into Italian was in course of preparation by Dr. Camusso.

The new edition contains fifty-seven pages more than did the preceding one. Twenty new illustrations have also been added, and several others, which better illustrate the text, have replaced the "figures" of former editions.

Much more space has been allotted to the consideration of the "treatment of vomiting of pregnancy;" to the "means of inducing premature labor;" and to the application of the forceps, especially of the axis-traction forceps, to the breech in pelvic presentations, as well as to other instrumental means of hastening delivery in these cases. The chapter on "Cæsarian Section and the Operations of Thomas and Porro" has been enlarged by a description of Kehrer's, of Sänger's, and of Leopold's modifications of the older operation, and by the statistics relating to all of the operations collated by Dr. Robert P. Harris. Neugebauer's studies regarding the etiology and diagnosis of the spondylolisthetic pelvis have been added to the chapter on the "Rarer Forms of Pelvic Distortion," and the conclusions of Swedelin in regard to the prognosis and treatment of pregnancy occurring in women affected with contracted pelvis have also been inserted. The chapters on "Puerperal Fever" have been almost entirely rewritten, and contain fifteen pages more than the same chapters in the second edition. Indeed, embracing as they do all the latest contributions to and investigations on this important subject, as well as the views of the most celebrated obstetricians at home and abroad, they are thoroughly "abreast of the times," and contain material which can only be found elsewhere diffused through numerous medical journals. Among the minor additions and alterations may be mentioned a description of Skene's urethral glands; the admission that glands are sometimes found in the vagina; a discussion of the views regarding the formation of the "cervico-uterine canal," and also of the "rings of Müller" and "of Bandl;" and a quotation from Stoltz concerning the early and late ligation of the umbilical cord. Following the later investigations of Waldeyer, the author is far from sure that the surface of the ovary which projects into the cavity of the peritoneum is uncovered by peritoneum, as has been generally stated in the text-books and taught in the schools for some years past, nor is he as

positive as formerly that icterus neonatorum is of hæmic rather than of hepatic origin. That rupture of a Graafian follicle is always followed by an effusion of blood into its cavity can hardly be regarded as positively proved, although accepted by the majority of physicians, and perhaps the author speaks of the part played by this effusion in the formation of the "corpus luteum" with more positiveness than is warranted by investigation. It would be interesting if the author had stated how many spermatozoids he considers necessary for the foundation of an ovule, as the usual picture from Robin (which he figures) represents an ovule which contains sixty-one of these particles, and three more are in the act of penetrating! Recent research, however, seems to indicate that only one is necessary, and that, in fact, the penetration of a larger number probably results in the development of a double monster. The systematic arrangement of this work, the clearness of the print and of the illustrations, the copious and accurate index (for which the author acknowledges his indebtedness to Dr. W. H. Flint), and the clear and concise manner in which the author has presented his facts, all combine to make this work one of the best on the subject in the English language, either as a text-book for students or as a book of reference for the practitioner.

H. M.

THE CENTURY MAGAZINE AND THE NORTH AMERICAN REVIEW.

One of the most phenomenal literary histories with which we are acquainted is that of the *Century Magazine*, which in the course of a few years has risen from nothing to the foremost place among the magazines of the world. With the November number commences the new volume. On looking over it, we find the illustrations are in their perfectness and variety superior even to the general high standard which the magazine has set up. In the crowded waiting-room of the city physician, and in the more lonely study of the country doctor of uncertain hours, we know of no periodical which is superior to the *Century Magazine* for the purpose of enabling the patients to while away the weary minutes of waiting and to keep them in a contented frame of mind until their turn shall come.

A journal of a more serious type, not illustrated, but exceedingly valuable and interesting in its contents, is the *North American Review*, whose success in its way almost equals that of the *Century*. Its pages are largely devoted to elaborate and earnest discussion of the questions of the day, and for the thinking portions of the community it is sometimes even more attractive than its lighter rivals.

BERLIN AS A MEDICAL CENTRE. A Guide for American Practitioners and Students. By Horatio R. Bigelow, M.D.
Sandy Hook, Conn.: New England Publishing Co., 1885.

This little book has evidently been written by one thoroughly familiar with the subject on which he treats, and must be of great service to foreign visitors desirous of completing their education at the medical centre referred to. It is full of detailed information in regard to the methods of travel, cost, boarding-houses, hotels, theatres, telegraph-offices, postal arrangements, and gives in especial detail the matters relating to the every-day life of the medical student. At the back of the book is an elaborate map of the city of Berlin.

VON ZIEMSSEN'S HANDBOOK OF GENERAL THERAPEUTICS. *Volume III.* RESPIRATORY THERAPEUTICS. By Professor M. J. Oertel, M.D., of Munich.
New York: William Wood & Co., 56 and 58 Lafayette Place, 1885.

The volumes of this handbook follow one another apparently as regularly and even more rapidly than do the numbers of the THERAPEUTIC GAZETTE. We gave much space to the first two volumes, because we thought that the general character of the book would probably be foreshadowed in them, and upon their excellence would rest the decision of our readers whether to subscribe to the work or not, and our notices of the remaining volumes must be much more brief.

The present volume seems to coincide in its general character with those that have preceded it. It is devoted to an exhaustive discussion of respiratory therapeutics by Prof. M. J. Oertel, of the University of Munich, and contains within its seven hundred and fifty pages the most elaborate statement of all the facts that are known, and we had almost said of all which are unknown.

The first portion of the book, after the introduction, is devoted to the discussion of the treatment of respiratory diseases by the inhalation of chemical or pharmacological remedies, showing the way in which such remedies penetrate the lungs, considering in detail the various forms of apparatus in use, the number and duration of the inhalations, and the mode of their action upon the mucous membrane of the air-passages. A large number of individual pharmacological substances are then

taken up, after which the author passes on to the treatment of special maladies by inhalation. This latter portion of the work occupies about five hundred pages, and is especially complete. We notice in this volume evidence of a wider acquaintance with medical literature other than German than was apparent in its predecessors. Even some American names seem to have penetrated the German exclusiveness which was to be expected to surround like a wall of fortification the study of Prof. Oertel.

WOOD'S LIBRARY OF STANDARD MEDICAL AUTHORS FOR AUGUST.

The August number of the Wood Medical Library, William Wood & Co., New York, is a reprint of the well known work of Dr. W. H. Dickinson, of London, on Renal and Urinary Affections. It is modified in so far that the numerous cases detailed in the English edition have been omitted in order to reduce the size of the book, and the text so altered that the omission does not interfere with its continuity. We do not think that a detailed review of the American reprint of a book so well known as the one before us is required, and therefore content ourselves with the announcement of its reappearance.

The September number of Wood's Library of standard medical writers has been received. It is a reprint of the well-known work of Dr. W. R. Gowers, of London, upon epilepsy and other chronic convulsive diseases. An elaborate review of the reprint of a book which was originally published in 1881 would of course be out of place in 1885. We believe that the present edition is a verbal reproduction of the original English edition.

PYRIDIN, CHINOLIN UND DEREN DERIVATE. Von Dr. Sigmund Metzger, in Nurnberg.
Braunschweigh: Friederich Vieweg und Sohn, 1885.

This brochure is a prize essay, and deals entirely with the chemical aspects of the subject on which it treats. It seems to be most thorough in its elaboration, and is evidently the outcome of an enormous amount of well-directed work. The immense number of substances which the ingenuity of the world's chemists have succeeded in forming out of pyridin and chinolin is indicated by the fact that fifteen tables are required to enumerate them, with their distinguishing formulæ and chemical characteristics. Each of these tables contain from fifteen to thirty-five substances. We hardly suppose that any of our readers are sufficiently deep in technical chemistry to desire to learn this monograph by heart, but we can refer to it with confidence any one who is inflamed with ardor for the wooing of such hard-named virgins as "Dibromphenylpyridindicarbonsäure, Hydroxylutidinmonocarbonsäure, Furfuryldicarbolutidinsäureäthyläther."

PHYSICIANS' VISITING-LISTS.

We find upon our office table the *Medical News* Visiting-List for 1886; also the Visiting-List published by P. Blakiston, Son & Co. Of these the latter is the smaller and neater publication, therefore the lighter for the pocket, whilst that of Lea Brothers & Co. is much more elaborate, both in its preliminary matter and in its blank pages. The smaller of these publications corresponds in its general form with its old, well-known type, and contains for original matter certain tables in regard to doses and new remedies, etc., besides plates illustrating Sylvester's method of artificial respiration. The *News* Visiting-List is composed of not less than ten different departments, each of which is readily found through a system similar to that commonly employed in indices. Either of these will, we think, meet the wants of the general practitioner. Which he will select seems to us a pure matter of fancy. Some, among which we confess ourselves to be, prefer lightness for the pocket, while others will select that which is more elaborate and complete.

REVUE SCIENTIFIQUE.

The following is a summary of the table of contents of the *Revue Scientifique* for the past month:

October 24, 1885:

The Conquest of Tonquin. IV. General Milat.

Medicine.—The Influence of the Surroundings on Pathogenic Microbes. By M. J. Hericourt.

Paleontology.—The Tertiary Vertebrates of America, according to Prof. Cope. By M. E. Trouessart.

Varieties.—The Wearing of Beards. By M. A. Martha.

Book Notices.—Manual of Geology (Seeley).

Proceedings of the Academy of Sciences of Paris.

Correspondence and New Inventions.

October 31, 1885:

Zoology.—The Phosphorescence of Marine Animals. By M. MacIntosh.

Terrestrial Physics.—The Whirling Movements of the Atmosphere. By M. de Bort.

Pathology.—The Prevention of Rabies. By M. Pasteur.

Geology.—The French Association for the Advancement of the Sciences.

Varieties.—The Submarine Work at Hell-Gate, New York.

Book Notices.—Manual of Microscopy. By M. Bizzozero.

Proceedings of the Academy of Sciences of Paris.

Correspondence and New Inventions.

November 7, 1885:

Progress of the Sciences.—Paleontology in Germany. By M. A. Gaudry.

Scientific Biography.—A Russian Surgeon of the XIXth Century. Posthumous Memoirs of Pirogoff.

Mathematics.—The Theory of Whist. By M. Badomeau.

Physiology.—Beverages and Obesity. By M. G. Sée.

Psychology.—The Intelligence of Animals. By M. Delbœuf.

Book Notices.—General Anthropology. By M. Topinard. X. Cholera is not Transmissible nor Contagious.

Proceedings of the Academy of Sciences of Paris.

Correspondence and New Inventions.

November 14, 1885:

Progress of the Sciences.—Surgery in 1885. By M. Trélat.

Physiology.—The Attenuation of Virus. By M. Chauveau.

Geography.—The Hawaiian Islands. By M. Jouan.

Astronomy.—The Satellites of Venus. By M. Dallet.

Book Notices.—History of Mechanics (M. Mach).

Proceedings of the Academy of Sciences of Paris.

Correspondence and New Inventions.

November 21, 1885:

Chemistry.—The Fixation of Atmospheric Nitrogen. By M. Berthelot.

History of the Sciences.—Paracelsus. By M. Laboulbène.

Geography.—The Regions Contested between France and Brazil. By M. Coudereau.

Book Notices.—Blindness and its Prevention (M. Fuchs); Physiology of the Voice and Singing (MM. Gouguenheim and Lermayer).

Proceedings of the Academy of Sciences of Paris.

Correspondence and New Inventions.

Correspondence.

BERLIN.

(From our special correspondent.)

URETHAN—NOTES FROM PROF. HENOCH'S CLINIC ON DISEASES OF CHILDREN—LARYNGOSCOPY AS A MEDIUM OF DIAGNOSIS—CHOLESTERIN-FAT AND LANOLIN AS A BASIS FOR OINTMENTS—PROF. KOCH'S COURSE ON HYGIENE.

Your correspondent asked Dr. Bock, of the Pankow Hospital for the Insane (Berlin), to try Dr. Jaksch's latest discovery, viz., the hypnotic urethan, and to present the same for publication in the GAZETTE. The results obtained not only completely differ from those obtained by Jaksch, but were of a sufficiently alarming nature to deter even the boldest practitioner in every land from ever trying the drug. The drug was given to two patients, and besides taken by the chief of the hospital, Dr. Friedländer himself.

CASE I.—A patient affected with melancholia, a robust man. Two minutes after the hypodermic injection of 0.0045 ($\frac{1}{15}$ gr.) of urethan dissolved in water a general and pronounced sensation of lassitude and depression set in, accompanied by violent attempts at vomiting. All visible mucous membranes, including those of the tongue, became very distinctly white and anæmic; the pupils reacted irregularly; there was no ascertainable cardiac beat nor radial pulsation. Reflex excitability and sensibility remained normal. After the lapse of a quarter of an hour all symptoms had passed away excepting a certain muscular weakness, which remained for some time.

CASE II.—A paralytic patient. The same dose was injected hypodermically, without producing any appreciable effect whatever.

Although the alarming effects of the drug, especially on the circulatory system, as shown in Case I., precluded any further trials with it on patients, Dr. Friedländer ventured to take the drug himself, when a short time after he was seized with pleurisy, and felt the need of a hypnotic. After having taken 1 gramme (15 grs.) of urethan dissolved in water before retiring, he enjoyed a comfortable night's rest, and felt well satisfied with the drug. Taking it on the following night, however, no hypnotic result could be obtained, but, on the contrary, a state of considerable excitement set in, which deterred the doctor from giving the drug any further trials. These however scanty observations do certainly not warrant the eulogy of

Jaksch regarding the hypnotic value of urethan.

The clinics of Prof. Henoch on diseases of children belong to the most interesting and instructive medical lessons of which the German capital prides itself. The two following cases, presented to the invariably crowded auditorium of the Charité on the 2d and 3d of November respectively, brought out the diagnostic acumen of that distinguished teacher in a striking manner.

The first child, presented in the arms of its mother, offered apparently no other tangible pathological condition than a peculiar nasal sound of its voice, and was for that reason simply presented for treatment. It will be a matter of interest to our readers to have first learned the results of the special examination of the patient before they are made acquainted with the diagnosis. The soft palate and uvula were found to be in a state of paralysis, and of course did not separate the respiratory portion of the pharynx from the digestive one,* which condition was the cause of the nasal speech, and at the same time caused the liquids taken by the mouth often to be expelled through the nose. The pupils were dilated, and on a closer examination a slight but distinctly discernible convergent strabismus was made out. No ataxic conditions, even when the child closed its eyes, could be discovered, though the patella-reflex was totally absent on either side. Nothing further being in any way suggestive of a disease could be ascertained. The diagnosis which Henoch at the close of the personal examination of the patient pronounced seemed like the strangest possible revelation. "This is a case of diphtheria, gentlemen, of diphtheritic paralysis," Henoch said; "my diagnosis will and must be confirmed at once." The moment the mother heard the word "diphtheria" she protested energetically against any such an assumption. True, there was diphtheria in her house about a month ago, and one child even perished from it, but this child did not catch it. "You see, gentlemen," said Henoch, "my diagnosis was correct; we have to deal here with the paralytic sequelæ of a latent diphtheritis." This is by no means such a rare occurrence as might be supposed. The diphtheritic process might take an exceedingly mild course, or be in fact wholly latent, and can often only be recognized by its paralytic results. It has been such a frequent experience of Henoch to note the gravest paralytic consequences after the very lightest of diphtheritic cases that he feels justified in regarding this order of appearances as the rule. In these cases the patella-reflex and that on the soles of the feet is nearly always absent, as also seen in the present instance. Bernhardt and other clinical authorities go even as far as asserting that after every attack of diphtheria, even if no paralysis ensued, the patella-reflex was invariably absent. Still, this assumption appears scarcely warranted, at least in Henoch's observations. As to the present strabismus, Henoch remarked that visual interference, such as double vision and inability to see objects in close proximity, was a common appearance in diphtheria; a lack of accommodation referring to a paralysis of the tensor choroideus is the underlying etiological factor of these conditions. The prognosis in cases of this type is graver than would appear warranted by the existing morbid status. It does happen, though fortunately not frequently, that even several weeks after the cessation of the diphtheritic process the children, without any premonition whatever, suddenly perish from cardiac paralysis. In two cases in his private practice the fatal exit set in wholly unexpectedly and suddenly, seven weeks after reconvalescence had begun. Hence our prognosis, though in general not unfavorable, ought never to be clothed in too positive terms in these cases. The therapeutic interference needed in these cases of paralysis following a latent or actually existing diphtheria can, aside of diet and rest (in view of the ever-threatening cardiac paralysis), be limited to daily injections of strychnine into the subcutaneous tissue of the neck. Henoch's formula is,—

℞ Strychninæ sulph., 0.02; ($\frac{3}{10}$ gr.)
Aquæ dest., 10 (160 gtt.)
Fiat sol.

S.—For hypodermic use, 1 milligr. ($\frac{1}{1000}$) is the proper dose for the injection.

By chance on the next day another child was presented to the clinics which presented the symptoms of paresis on both legs, absence of patella-reflex on both sides, and absence of the reflex on the soles of the feet. Though a fall was indicated by the mother of the child as the cause of its affection, Henoch did not fail to again recognize the evident symptoms of a latent preceding diphtheria. Pertinent inquiries again elicited the fact that this disease had been in the family some five weeks ago, and had even carried off two children, though this child had never presented any diphtheritic symptoms. The recognizance of

* This distinction is taught by the German anatomists.

the true nature of these paralytic conditions of children cannot be overrated, both in view of the therapeutics as of the prognosis of the affection. In conclusion of these highly valuable clinical lectures, Henoch emphasized the striking results often obtainable in diphtheritic paralysis from the application of the electric current.

Professor Henoch presented to the class on the 10th of November a girl 8 years of age with fluor albus and articular rheumatism. The examination disclosed the fact that the child had been abused by a boy 12 years of age, who no doubt had gonorrhœa, as Neisser's gonococci were found in the vaginal secretion of the child; the rheumatism was evidently likewise of the gonorrhœal nature. Henoch admitted this to be the first case in his experience of a child having gonorrhœal rheumatism.

At the banquet held in Berlin on October 28, in commemoration of the twenty-fifth annual meeting of the Berlin Medical Society, two papers were read, which no doubt will be as interesting to the American physician as they appeared to his European colleague.

The first, entitled "Laryngoscopy as a Medium of Diagnosis," was read by the newly appointed professor of internal medicine, Gerhard, and is in the following represented in a condensed form. While the ophthalmoscope has proven a powerful agent of diagnosis for diseases of the nervous and circulatory apparatus, the laryngoscope has, generally speaking, not attained such an importance. Still, aside from its priceless services in the recognizance of affections of the laryngeal zone, the laryngoscope must be regarded as an important diagnostic agent for numerous affections.

The organ of voice is not rarely attacked by the infectious diseases. The majority of laryngeal affections, however, belong to tuberculosis, and of all tubercular patients one-third have a laryngeal affection. In doubtful cases the early appearance of a laryngeal ulceration confirms the diagnosis of a tubercular chest-affection, if in the scrapings of the ulceration bacilli tuberculosi are found. The value of the laryngeal ulcer in tubercular patients is especially great for the prognosis and therapeutics, especially for the selection of medicinal springs.

In typhous affections we see in one-tenth of all cases laryngeal ulcers, which are not infrequently the very first of local appearances. These cases can be with propriety termed "laryngo-typhoid."

In no other affection probably are the diagnostic services of the laryngoscope more striking than in the specific gummous laryngitis. Without even searching for Lustgarten's bacilli, a laryngoscope inspection of the facts usually sufficed to establish the diagnosis of syphilis. Next to the bacillus tuberculosis, the microbe of syphilis is the most potent destroyer of the vocal organs.

In measles, smallpox, lepra, lupus, cholera, and trichinosis the vocal organs are likewise apt to suffer. Even rheumatism produces occasionally a painful affection of the arytenoid articulations, and in some instances a paralysis of the vocal cords.

The laryngeal paralysis subsequent to diphtheritic processes is well known. Its special features lead often to the proper diagnosis of the nature of other simultaneously-existing paralytic affections. In cases of poisoning, those of arsenic and atropine show a special implication of the larynx. Seifert recently published similar observations in cases of lead-poisoning.

As to the affections of the digestive tract, it suffices to point to the almost constant sympathy and implication of the larynx in pharyngeal ailments, such as catarrh, tuberculosis, syphilis, and paralysis. Œdema of the glottis has frequently led the laryngeal examiner to search for nephritic troubles, which are often detected.

Most numerous and varied are the connections between the laryngoscopic visual field and nervous diseases. Neuromata may extend as little tumors into the larynx, though the most ordinary nervous affections of this region are of course of a paralytic nature.

The affections of the chest entertain likewise important relations to the larynx. Thickening of the apex of the right lung, on the inner side of which the recurrent nerve is situated, often causes paralysis of the vocal cords. This is occasionally also the case in pneumothorax and great pleuritic and pericardial effusions.

Chronic inflammation and tuberculosis of the bronchial glands cause so frequently paralysis of the vocal cords that this condition is at times regarded as sufficient to determine the diagnosis of a bronchial affection.

Just as the right recurrent nerve has anatomical, and therefore often functional, relations with the apex of the lung, the left recurrent has its relation to the arch of the aorta. Hence it is possible to diagnose an incipient or greatly concealed aneurism through the laryngoscopic picture of a paralysis of the left recurrent nerve.

These remarks, however scanty and superficial, will, nevertheless, suffice to demonstrate that the laryngoscope is not intended to be the privileged instrument of the specialist, but that in the hands of the general practitioner it can be an aid and guide for the diagnosis of various affections.

The second paper was read by Liebreich, and was entitled "On Cholesterin-Fats and Lanolin, a New Base for Ointments."

Liebreich explained first the conception which chemists had of fats, and how these substances differed from those which in ordinary life and in a physical-medicinal sense were termed fats. In the animal organism we find chiefly the so-called glycerides,—*i.e.*, the combinations of fatty acids with glycerin. Still, there are other fats also in existence, viz., those originating from the combination of fatty acids with other substances, such as protagon and lecithin. Besides, we find combinations of fatty acids with alcohols, such as cetylic alcohol forming wax, spermaceti, etc. Hartmann made an important discovery in this direction by finding that fat gained from woollen hair is a combination of cholesterin with fatty acids.

Liebreich has endeavored to find whether combinations of cholesterin with fatty acids could be found in the organism, and what *rôle* they played.

Through Virchow's cellular doctrine we have learned that the animal fat in the organism is found either by the fat-cells directly or that it has been received by them transitorily; and finally that a necrobiotic fat is formed from the cells. All these fats are glycerides. Aside of the glycerides, we find the spermaceti-fat in the cranial cavity of the whale and the crop of the goose. The cholesterin having been found in the woollen hair, numerous tissues containing keratin were examined for this substance (Liebermann's cholestole-reaction). It was found that cholesterin-fat is a constant companion of keratin. The question whether through the growth of cells this fat was elaborated in the keratin-tissue has been examined by some physiological experimenters. It is generally assumed that in birds the fat contained in their feathers is produced in the crop. In the goose, however, this theory was found to be incorrect. In the crop the cholesterin-fat could not be found by the cholestole-reaction ; but the extraction of feathers gave a considerable quantity of this fat, which Liebreich termed "lanolin," as it occurs most abundantly in woollen hair. It might be interesting to know that lanolin occurs also in the feathers of the peacock, though, according to Darwin, these animals have no crop.

In mammals the elucidation of the subject in question is considerably more difficult, as the sebaceous glands lying near the hair cannot be examined separately. Both in such animals which have no sebaceous glands (as the sloth, according to Leydig) and in numerous other animals in which these glands are poorly developed, such as in the pig, the porcupine, lanolin could be discovered in the hair and quills. In whalebone and tortoise-shell this substance was also found.

These researches have been instituted with the special view of finding an explanation for the great ease with which lanolin penetrates the skin. It is for this reason that the newly-discovered substance appears destined to play an important *rôle* in materia medica.

Externally lanolin differs from other fats in taking up water with remarkable ease. It is clear that lanolin thus saturated with water has quite neutral properties. Drs. Jaffé and Darmstädter, in Charlottenburg, Berlin, have succeeded in preparing by an ingenious method an absolutely pure preparation. Experiments have shown that all medicinal substances entered the fat with surprising rapidity and completeness, especially mercury. A quantity of sublimate-lanolin ointment (1 to 1000) of the size of a bean, rubbed into the scalp, produced a metallic taste within a few minutes. A four per cent. carbol-lanolin ointment produces a peculiar blunt (stumpf) sensation on the skin, which could not be produced by an ordinary fat-ointment of the same concentration.

Prof. Robert Koch opened the new course of hygiene, which is for the first time an integral portion of the medical studies, at the University of Berlin, on the 3d of November, before a crowded auditorium. In his introductory lecture he dwelt on the vital importance of the hygienic science, which was at no time so fully appreciated as at present, and pointed to the necessity of every medical school that desired to keep up with the progress of science to establish regular chairs of hygiene. His final remarks elicited unusual attention on the part of his hearers : "Hithertofore, gentlemen, you have been taught how to *endeavor* to cure a disease ; henceforth you will be taught how to *succeed* in preventing disease."

The number of American students at the Berlin University is unprecedented, being about one hundred in all, mostly, though, in

the medical department. In the smaller lecture-rooms, those of Prof. Henoch (diseases of children) or Schroeder (gynæcology), one might readily imagine one's self to be in an American lecture-room, for the English tongue is heard from all quarters. Vienna and Heidelberg have obviously no longer the greatest attraction for the American student.

THE VIVISECTION QUESTION.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—I have accidentally seen a copy of your journal of October 15 last, and I make the following reply to statements therein directed against me by name:

First.—The assertion that I have defamed any member of the medical profession in the public press is untrue.

Second.—The assertion that the life of my child was saved through means discovered by vivisectors; the assertion that it was saved at all; the assertion that I have stated it to have been saved as alluded to, is untrue in each of the three particulars named. The facts are these:

The gentleman who kindly assisted me during the illness of my daughter at the time indicated having proposed cold baths to reduce the high temperature of the patient, I objected, because, owing to the idiosyncrasy of the child, it was impossible to bathe her even in warm water, in a warm room, in warm weather, otherwise than by sponging a limited portion of the body at a time, and covering that before further sponging. Severe internal congestion followed neglect of this rule. Notwithstanding my explanation my friend attempted to give a bath in cold water by immersion next day in my absence, but the effort lasted a few seconds only. She never had a repetition of the bath, and the temperature when I reached home shortly after this attempt was *three-tenths of a degree higher* than before it. I trebled her dose of quinine, and this reduced the temperature to the normal in about forty hours.

I am grateful to my friend for his kindness in seeing my child as he did for a few days, and regret to make this statement now. His advice other than concerning the bathing was at once accepted. Knowing my child's constitution, and knowing that not only bad, but fatal results have followed both cold bathing by affusion and immersion, and that similarly bad effects have followed the use of alcohol in unsuitable cases or as a routine practice, I took the responsibility not only in the interest of my daughter, but in that of my friend also.

I cannot believe that the gentleman consulted or the editors of the THERAPEUTIC GAZETTE would stoop to such an ill-bred attack as that made upon me. I do not believe they would drag a family affliction into the columns of a book review. The whole article bears, under attempted sarcasm, the imprint of insolent knavery. I did not make the remarks printed in the review.

I am, gentlemen, respectfully yours,

WILLIAM R. D. BLACKWOOD.

November 2, 1885.

[We have printed this letter in order to avoid any charge of editorial unfairness. In regard to its first assertion, Dr. Blackwood and the American Antivivisection Society are in direct contradiction. In a pamphlet entitled the "Second Annual Report of the American Antivivisection Society, Philadelphia, 1885," is an address delivered by Dr. Blackwood *before a popular audience*, in the presence of *newspaper reporters*, and afterwards reprinted by the society in full for *popular circulation*. In this Dr. Blackwood says "that vivisectors are less capable of managing such diseases than ordinary intelligent physicians, . . . visionary in their ideas, prejudiced in their aims, and illogical in their conclusions." To understand the personality of this, it must be borne in mind that there are only two or three men in Philadelphia who are at once engaged in vivisection and in the practice of medicine; that the names of these gentlemen are continually mentioned in private and public by members of the American Antivivisection Society, so that it is generally known to whom any allusion refers, and that one of these gentlemen was specifically held up to contumely by the speaker immediately preceding Dr. Blackwood.

In regard to the details as to bathing, etc., involved in the second point of Dr. Blackwood, Dr. H. C. Wood now reiterates his previous statements, so that it becomes a question of personal veracity between Drs. Wood and Blackwood, where we as editors must leave it. These details do not, however, affect the main point of issue, for even if Dr. Blackwood's version be accepted, he is convicted by his own words of having in *private* taken professional counsel for his own family of the man whom he *publicly denounces as unworthy* of the professional confidence of the community in which he lives.

As editors we are concerned with the

charge of the impropriety of allowing a private matter to be spoken of in the book review, but when a medical man so far forgets himself as to publicly denounce a brother practitioner as incompetent, it certainly is allowable to show in the acts of such a man that he himself knows the falsity of the charges he is making.

We must apologize to our readers for occupying so much space with this subject, but it has seemed right that medical men who are trying to swim with the current of public prejudice should learn that they cannot also attempt to drown those who are contending for the good of the profession and hope to escape accountability to the profession. Let us trust that henceforth these gentlemen will cease from personally abusing vivisectors, and confine their addresses to the discussion of the practice of vivisection.—EDS.]

SEQUEL TO TYPHOID FEVER.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—In the October number of the GAZETTE Dr. Eugene J. Chassagne, of Independence, Missouri, reports a case of typhoid fever which had in his opinion the very uncommon sequel of intermittent fever. In your comments on the case you also state that "cases of development of intermittent fever after typhoid are rare."

My conclusions, based upon an experience of sixteen years' practice in the malarious regions of Southern Illinois and Indiana, differ somewhat from yours. Although I have kept no special notes of such cases, yet I have a quite vivid recollection in regard to a number which have occurred in my practice during the last eight or ten years. I know of no good reasons why a patient convalescing from typhoid should be exempt from the action of malaria. Indeed, it seems to me that the vitality of such patients is so greatly depressed, and all of the vital functions so imperfectly performed, that they are in precisely the condition to be peculiarly suceptible to its action. So thoroughly has experience convinced me that such is the case, that I have for several years made it a rule to prescribe an antiperiodic every third day for all convalescents from typhoid during the autumn months. One very recent case so well illustrates the point that by your permission I will very briefly report it.

Josephine C., aged 24. Married, but living apart from her husband. Had recently nursed two cases of typhoid occurring in neighboring families. After a week's indisposition was, on September 13, 1885, prostrated by an attack of typhoid. With the exception of a rather obstinate diarrhœa the disease ran a mild course, and by the twenty-first day (October 4) convalescence was well established. On account of an idiosyncrasy of the patient I did not follow my customary rule of prescribing quinine on every third day during the stage of convalescence. October 11, the patient's father called at my office and stated that his daughter on the day previous had a chill followed by a high fever, which she sweat off during the night. Fearing another chill, he had come for medicine. It then being too late to hope to prevent an attack on that day, I prescribed sulph. quinine, gr. xxi, to be divided into seven doses, one to be given every two hours after the fever had subsided from the expected attack, which was due about 11 A.M. The chill arrived promptly on time, and, as before, was followed by a high fever and profuse perspiration during its decline. At 5 P.M. on the following day I was summoned hastily to see the patient. Upon inquiry I learned that she had borne the quinine badly, and had consequently taken but three doses, or nine grains in all. At 12 A.M., one hour later than on previous days, she had taken a chill. Being very weak, the combined effects of the quinine and fever had precipitated an hysterical or "nervous" fit. Naturally the family became alarmed and supposed her to be dying, hence my hasty summons. I found her quite nervous, but otherwise as comfortable as one could be expected to be under similar circumstances. Pulse 140, weak and fluttering; temperature not taken, but probably 102° F.; respiration somewhat hurried, and frequently interrupted by a prolonged yawn. I prescribed 20 grains of bromide of potassium and 5 drops of tinct. digitalis in one ounce of water, to be taken immediately, and repeated every three hours until fever and nervous symptoms subsided. I also directed 10 drops of compound tincture of iodine to be given in a little water every three hours. The latter was given for its antiperiodic effect, as the patient could not take quinine even in small doses without suffering from severe symptoms of cinchonism, as well as many other very annoying nervous symptoms.

October 14, 3 P.M., called, and found patient entirely free from fever and doing well in all respects. Continued the comp. tinct. iodine in alternation with tonics and stimulants, and from this time her recovery was uninterrupted,

and at present writing (November 6) she is in fair health. Another case very similar to the one above reported came under my observation during the past fall, but to give a history of it would be in all essential particulars but a repetition. I will not occupy valuable space in reporting it.

GEORGE H. WILLEFORD, M.D.
GLENDALE, IND.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—In the October number of the THERAPEUTIC GAZETTE I noticed a communication from Dr. Eugene J. Chassagne on "A Rare Sequel of Typhoid Fever." I have notes on a case that occurred in the summer of 1882, during my service as interne at the Western Pennsylvania Hospital, Pittsburg, Pa. The patient, a young mechanic, had a regular attack of typhoid fever. His temperature was normal on the twenty-second day, and continued so for five days, when a chill occurred on the morning of the sixth day, followed by fever and sweating.

This occurred on three successive mornings. Fully realizing now that we had to deal with an intermittent fever, a 20-grain dose of quinine sulph. was administered at 12 A.M., midnight, with the result of stopping the regular morning attack. This was repeated for several nights, and on being discontinued there was no recurrence of the intermittent. The patient acknowledged to having been affected with fever and ague some time previous to his attack of typhoid.

This was the only case of the kind observed in over one hundred cases of typhoid fever under observation during that year.

Respectfully,
T. M. P. MCKENNAN, M.D.

Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—In the October issue of the GAZETTE, Dr. Eugene J. Chassagne, of Independence, Mo., reports a case of intermittent fever following typhoid, under the title of "A Rare Sequel to Typhoid Fever."

In reply to his inquiry, permit me to say that in Northwestern Ohio it is not rare for intermittent to follow typhoid fever; not as a sequel in the sense that that term is generally used, but as any other disease might follow it, such as measles or scarlet fever, etc., if the patients were exposed to the poison of those diseases.

I can remember a number of cases in my own practice in which intermittent fever followed typhoid, and I am informed by other physicians of this place that they have had a like experience.

Malaria may not only show itself after convalescence from typhoid fever, but may complicate the latter fever at any time during its course.

It is often difficult to diagnosticate typhoid fever early in its course in malarious districts on account of this complication.

To illustrate: We are called to see a case of fever with a temperature of 104° F. on the first or second day. On the following day there is a decline of two or three degrees, followed by a considerable rise again on the next. Now, in the absence of some very marked typhoid symptom, we should withhold a diagnosis till a few large doses of quinine are given. If the case is pure malaria it will be cured by the quinine; if a mixed case, the malarial element will be eliminated, and the characteristic temperature of typhoid continues.

Such cases are not rare in this part of the country.

In fact, I think much of the good results from large doses of quinine obtained in high temperatures of typhoid, especially in malarious districts, are in cases complicated by malaria.

JOHN BLOOMFIELD, M.D.
NAPOLEON, O.

UKIAH, CAL., Nov. 19, 1885.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—Your October issue contains a communication from Dr. Chassagne, of Independence, Mo., describing a case of intermittent fever as a sequel to typhoid. The same issue also contains a note from one of yourselves (H. C. W.), asking if any of your subscribers could report such cases.

About two years ago I had a similar case in a young man about 18 years of age. He had been working in the harvest-fields of the San Joaquin Valley, a very malarious district. He was taken sick, and returned home. I was sent for, and found a typical and well-developed case of typhoid fever. Knowing the malarious character of that section of the State, my treatment naturally included the administration of considerable quinine. The patient progressed favorably, and was discharged about the end of the third week. One week after I was sent for, and found that the patient had had a chill,—not a severe one, however,—followed by high fever (103½°). I at first suspected an attack of pneumonia, but on examination could find

nothing to sustain my suspicions in that direction. I therefore concluded that it was an attack of malarial fever. I gave a dose of calomel, and awaited results. The following day there was neither chill nor fever, but the second day there was a recurrence of both at the same hour. I immediately put the patient on treatment for intermittent fever, and there was but one other (slight) recurrence of the symptoms. I did not, nor do I now, consider the attack of intermittent fever a sequel to the typhoid, but simply the result of malaria in the system.

BARTON DOZIER, M.D.

URTICA DIOICA.

Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—I read the THERAPEUTIC GAZETTE constantly and with increasing interest. In the issue for November 16 there is a paper on *Urtica Dioica* as a hæmostatic. In the revised edition of my "Resources of the Southern Field and Forest," 1869, I referred to some imperfect experiments made with this plant upon animals. I also used it internally as a hæmostatic. I think it is spoken of as a hæmostatic in the *Dict. de Mat. Médicale* by Merat & Desens.

With best respects, yours,

F. PEYRE PORCHER, M.D.

CHARLESTON, November 19, 1885.

TREATMENT OF ECZEMA WITH OLEATE OF COPPER.

November 23, 1885.

Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—I wish to report a case of chronic eczema in my practice, cured with oleate of copper. This gentleman, of good habits, no taint of any kind, light hair, thin skin, well up in this world's goods, applied to me some two or three years ago for eczema on both arms, two or three inches in diameter, and some smaller patches on the back and thighs.

I prescribed Fowler's solution and solution of corrosive sublimate. This treatment would *suspend* the disease for a short time, and then it would return. Having seen Dr. Shoemaker's monograph on the oleates, etc., I determined to try them in this case. I obtained some oleate of copper (Parke, Davis & Co.), and made the ointment as recommended, about a fifteen per cent. mixture with cold cream. Directed him to apply poultices of flaxseed until all *scales* were removed, then rub on the ointment night and morning, and wear a bandage of fine flannel, also smeared with the ointment.

In about a month he reported to me that he was cured. I told him to wait for a month or six weeks, and then let us decide that question. We have waited three months, and there is no return of this complaint, which he says has been troubling him in a greater or less degree for about thirty-five years.

Respectfully yours,

THOS. H. URQUHART.

HASTINGS, NEB.

GELSEMIUM-POISONING.

To the Editors of the THERAPEUTIC GAZETTE:

I have read with great pleasure and not a little satisfaction Dr. Rehfuss's article on "Gelsemium and its Reputed Antidotes" in the THERAPEUTIC GAZETTE of October 15. It was my misfortune to have a fatal case of gelsemium-poisoning, which I reported in the *Boston Med. and Surg. Journal* of December 22, 1881. In the *Phila. Med. News* of May 30, 1882, the editor refers to my case in an editorial article, in which he speaks of my treatment as follows: ". . . The use of atropine is a remarkable instance of the kind of physiological reasoning sometimes indulged in by *writers for periodical medical literature.* There is between atropine and gelsemium similarity rather than antagonism. . . ." The italics are mine. Had the editorial writer confined himself to a just review of my treatment, and pointed out its errors, I would have been very thankful, particularly if he had had the graciousness to refer me to some of the sources of his superior wisdom. I had reported my case, knowing it would be of interest to some, and perhaps be of some use in showing what to avoid, if not what might be of service. In my case the atropine certainly improved both heart and respiration for a time; and were I to see another case I should employ atropine, the faradic current, and heat, unless the therapeutic indications are much more definitely determined than at present they seem to be. On the part of some editorial writers for the medical periodical press there appears to be an unwarranted assumption that their *ipse dixit* should be sufficient for the inquiring practitioner; whereas what we desire is more work like Dr. Rehfuss's, and less empty assertion such as that referred to.

Very sincerely yours,

WM. WATKINS SEYMOUR.

105 THIRD STREET, NEW YORK.

CHLOROFORM TREATMENT OF TAPEWORM.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—In your journal of November 16, 1885, I notice an article stating that Dr. Simonds, of Cleburne, Texas, in 1879, accidentally discovered that chloroform was a good remedy in the treatment of tapeworm, and claiming for him priority in its use for that purpose. Now, in 1867 I saw an article recommending ether, and it occurred to me that chloroform would be better, and I suggested to Dr. Small, my partner, that I would try it on a German and his wife, who had consulted us for this trouble. I gave them ʒi chloroform, in syrup, followed in one hour by castor oil. In both cases the worm was promptly expelled. I have used the same treatment repeatedly since, and, so far as I know, successfully.

P. H. CHAMBERS, M.D.

LEXINGTON, MO., November 19, 1885.

REMOVAL OF WARTS.

Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—I wish to announce to the medical profession, through the columns of your valuable journal, the virtues of castor oil in the removal of warts. Constantly applied for from two to four or six weeks each day,—that is, once a day,—it has not failed in my hands in any case of any size or long standing. The time it takes may try the patience of the user, but if faithfully used they will get their reward in the removal of the wart without leaving any scar. I have used it with some success in other growths, and had benefit enough to merit further trial. It might be a success in the removal of certain kinds of cancer, especially scirrhus forms.

Respectfully,

S. C. DUMM, M.D.

1076 NORTH HIGH STREET, COLUMBUS, O.

HYOSCINE IN PUERPERAL MANIA.

To the Editors of the THERAPEUTIC GAZETTE:

GENTLEMEN:—I was called to see Mrs. S. in March last, and found her excited and irrational, though not raving. Husband and attendants said she had not slept any at all the previous night nor day, and had slept almost none at all for three days past. She was then in her seventh month of pregnancy, and had previously shown no signs of insanity, nor was it ascertained that any of her ancestors had been subject to insanity. As she was extremely wakeful, and the medicine prescribed for this difficulty seemed to be of no avail, I at once ordered hyoscine hydrobromate, gr. $\frac{1}{48}$. The drug could not be obtained until late the following day, and then in granules of $\frac{1}{100}$ gr. Of these two were given, followed by several hours of sleep. Her husband stated that she slept quietly nearly all night. Arrangements were soon after made for taking her to Danville Insane Asylum, whither she was removed in a few days.

Very truly yours,

L. H. TAYLOR.

WILKESBARRE, PA., September 15, 1885.

Notes and Queries.

A CASE OF POISONING BY MURIATE OF COCAINE.

The following case of poisoning by muriate of cocaine, reported in the *Chicago Medical Journal and Examiner* for October, 1885, by DR. G. W. KENNICOTT, is worthy of notice:

A woman, aged 25, of good constitution, had been using a two per cent. solution of cocaine for hay-fever. Her vial being exhausted, her husband, *without a prescription*, procured from a druggist two 5-grain vials of the muriate of cocaine, full strength, of which Mrs. S., about 5 o'clock P.M., applied two-thirds of the contents of one bottle to both nostrils with a small glass insufflator. In fifteen or twenty minutes she became dizzy, her vision became dark, a sinking sensation occurred, with great weakness.

When Dr. Kennicott was called, one-half hour later, he found the patient in a semi-comatose condition, from which she was easily aroused, but answered questions with difficulty. When so aroused, her mind was clear. Her temperature was above normal. Her skin was hot and dry. The radial pulse was very rapid, and so weak as to be scarcely discernible. Her pupils were widely dilated. Deglutition and articulation were difficult. There was some dyspnœa. She complained of dryness of her fauces and a bitter taste in her mouth. She complained also of cold shivers, and her teeth chattered, although her temperature was still above normal. Later she became drowsy; her eyes were closed and the muscles of her face affected. There was great weakness; she could not support her head. There was dyspnœa, but it was not severe. There was some nausea, but she did

not vomit. Her extremities were cool, and her mind clear when aroused.

She recovered in about three hours under stimulants (brandy and ammonia) and digitalis. Heat and friction were applied to her extremities, and heat over the epigastrium.

COMMON SALT IN THE TREATMENT OF PLEURISY.

SCHULZ (*Deutsch. Med. Wochns.; Med. Ztg.*) has had ample opportunity to confirm a statement made by Robinson with regard to the efficacy of chloride of sodium in the treatment of pleuritic effusions. In a series of cases of acute pleurisy a tablespoonful of a 1 to 30 solution was given every two hours, dry diet being at the same time imposed. Under this simple treatment the exudation diminished rapidly, and the quantity of urine passed was noticeably increased. It is stated that the appetite was improved, and that there was an absence of that thirst which would naturally have been expected. The treatment should be restricted to cases of simple exudation, as it is useless in empyema.—*N. Y. Med. Journ.*

POISONING BY CHLORATE OF POTASSIUM.

DR. SIMMONS B. JONES, of Charlotte, N. C., reports the following interesting case (*Medical Record*, November 7, 1885): A little girl, 9 years of age, had been under his care for a slight fever, with weak pulse, nausea, and continual vomiting, but, having apparently recovered, was dismissed as cured. On the day following, July 26, the child had a sore mouth, and her mother gave her a paper containing something over an ounce of chlorate of potassium, allowing her to take it *ad libitum*. The girl liked the taste, and ate the crystals all day, consuming in this way between two and three hundred grains. At about two o'clock on the morning of the 27th the patient awoke vomiting. When seen some five hours later she was deathly pale, with blue lips, and a very rapid and feeble pulse, and presented exactly the appearance of one who had had a sudden and copious hemorrhage. "I had no idea at this time of the cause of the trouble, the parents having said nothing about the chlorate of potassium, believing it to be a harmless drug; but I suspected poisoning. The patient remained in this condition the three following days, vomiting and being unable to retain any food, and passing no urine. On the fourth day I introduced a catheter and drew off about five ounces of smoky urine, which, on examination, was found to contain albumen, casts, and altered blood. Dr. H. Formad, of the University of Pennsylvania, who examined a specimen, reported: 'I fully coincide with you about the urine; it contains a very large quantity of granular blood, epithelial casts, and free blood, showing a profound renal affection.' The urine was drawn for several days, and then began to be passed naturally in sufficient quantity, the blood disappeared, and the water resumed its normal color. An analysis, by Dr. Hannah, of eight ounces drawn the second day, showed six grains of potassium chlorate. The vomiting continued until August 14, the matter vomited consisting of dark green mucus of an offensive odor. On August 16 there was seen an eruption of small maculæ of a purple color upon the forearms. The temperature arose to 100° on the 20th, the submaxillary glands became swollen, the throat was red and œdematous; the patient sank gradually, and died on August 26. She never complained of much pain, and there was no tenderness over the stomach. The bowels were at first constipated, but when action was solicited the matter passed was dark and resembled the urine in appearance. There was complete anorexia throughout the entire period. Life was sustained by enemata of beef, peptonoids, and milk until the rectum became too irritable to retain the injections. After the vomiting had ceased, the patient was able to retain a little buttermilk. During the first few days much relief was obtained by warm baths, which were always followed by profuse perspiration and quiet sleep." No autopsy could be obtained.

PHARMACOLOGICAL NOTES.

DR. CURCI instituted a series of interesting experiments on the influence of various drugs on the cerebral circulation, which we find published in the *Lo Sperimentale* (*vide Schmidt's Jahrb.*, October, 1885). His view was that an increase of the cerebral blood-mass was identical with an increase of the brain-mass, and *vice versa*. The experiments were made on trephined dogs, and with a manometer filled with oil and placed in the trephined opening. He found that chloroform and ether (four experiments), hydrate of chloral (two experiments), paraldehyde (one experiment), and quinine (two experiments) produced a relative anæmia of the brain, but morphine and nitrite of amyl a cerebral hy-

peræmia. It appeared noteworthy that the hyperæmia produced by morphine disappeared at the exhibition of hydrate of chloral, paraldehyde, chloroform, and ether, while in the presence of these drugs morphine could not produce any hyperæmia. The therapeutic indications for these drugs are very easily to be deduced from these results.

"AVELOZ," OR THE BRAZILIAN CANCER-CURE.

The Paris correspondent of the *British Medical Journal* (September 19, 1885) writes that M. LANDOWSKY has carefully studied the Brazilian plant called by the natives alveloz and believed by them to cure cancer. He believes this plant to be an euphorbia discovered by Martin and described by Muller under the name of *Euphorbia heterodoxa*. A preparation of its juice possesses the combined properties of a caustic and of papaïne. It promptly destroys the affected tissues, layer by layer. At Pernambuco, after it has been well painted on the tumor, it is covered with a tobacco-leaf. M. Landowsky, in his communication at the Grenoble Congress, stated that, after applying it, he places over it a sublimate of vaseline and borax dressing.

A CASE OF POISONING BY EUCALYPTUS.

DR. OWEN reports in the *Australian Med. Journal*, September 15, 1885, a case of a child, aged 17 months, who was poisoned by swallowing only a very few drops of extract of eucalyptus. The bottle from which it was taken was supposed to have been emptied just before, and was given to the child as a plaything. The mother stated that within half an hour symptoms of drowsiness set in, with loss of power in the limbs; that she gave some soap and water as an emetic, and that vomiting occurred three times.

When first examined the child was pale, its head and extremities quite cold, lips pale pink, pupils contracted, conjunctivæ insensible to touch until aroused, pulse imperceptible, breathing short and spasmodic, with an interval between each act of inspiration and expiration, and accompanied by a wheezing noise. There was drowsiness, but when disturbed and aroused the patient could cry vigorously, soon relapsing, however, into its former condition. Apparently no pain or tenderness at the epigastrium. The heart-sounds were very weak. Loud ronchi, with some râles, could be heard over the greater part of the lungs, especially at the bases posteriorly.

The child had had a cold for two or three days, and some of the eucalyptus was rubbed into the chest, which made it difficult to be certain whether or not its odor was present in the breath. The first vomited matter smelled distinctly of it, but no trace could be detected in the last. Taking this latter fact into consideration, as well as the great depression that was present, no emetic was employed, but whiskey was administered (no brandy being available) with warm milk and lime-water at frequent intervals. The child was put to bed near a fire, with a hot brick near the body and a sinapism around the chest and abdomen. The pulse soon began to improve, and the breathing became more natural and recovery took place.

UNFAVORABLE SYMPTOMS AFTER THE USE OF ANTIPYRINE.

DR. STRAUSS (*Deutsche Med. Zeitung*) reports the occurrence of collapse in two instances in the second week of typhoid fever after the use of antipyrine in doses of 45 grains. It is better, therefore, always to commence with repeated doses of 15 grains, and, if these prove ineffective, then the larger doses may be administered.

NEPHROTOMY FOR TOTAL SUPPRESSION OF URINE.

MR. CLEMENT LUCAS performed an unique operation in Guy's Hospital on October 29. A woman, from whom he had removed the right kidney for total destruction of its secreting structure by large calculi and hydronephrosis, about four months ago, and who had made a rapid and complete recovery, was suddenly seized with great pain in the left kidney, followed by vomiting, headache, and suppression of urine. She passed urine last on Sunday morning, October 25, between eight and nine o'clock; and, from that time till the operation on Thursday afternoon, no urine passed, and vomiting was persistent. Her medical attendant, Mr. Atkins, of Sutton, correctly interpreting the meaning of her symptoms, placed himself in communication with Mr. Lucas, and the patient was brought to London on Wednesday, October 28. It was thought that the effect of diuretics in flushing the kidney might yet be tried whilst the patient was watched. These proved of no avail, and on Thursday afternoon, the patient having become drowsy and much weaker, Mr.

Lucas cut down on the remaining kidney, and removed from the pelvis a conical calculus, measuring seven-eighths by one-half of an inch in its greater diameters. Total suppression had then lasted one hundred and two hours. A free flow of urine took place at once through the wound, and the patient was relieved of her vomiting and drowsiness. Five days after the operation she was doing well and feeling comfortable. Mr. Lucas's case of nephrectomy performed on October 20 healed without suppuration or fever. The patient sat up for the first time on the eighth day, and is now convalescent. — *British Med. Journ.*, November 7, 1885.

TASTELESS QUININE.

An almost tasteless tannate of quinine is obtained by dissolving sixty grammes (900 grs.) tannic acid in eleven grammes (3 drachms) of water, without heat, and adding eleven grammes (3 drachms) of a two per cent. solution of sodium bicarbonate, and enough water, if necessary, to make a clear solution. To this solution is added a solution of forty grammes (600 grs.) quinine sulphate in twenty-seven grammes (7 drachms) of dilute sulphuric acid and eleven grammes (3 drachms) of water. The precipitate is washed on a linen strainer until the washings cease to have an alkaline reaction; it is then dried and powdered. Prepared thus, tannate of quinine contains about thirty-three and one-third per cent. of quinine, and is cheaper than the commercial article, which frequently contains but twenty per cent. of quinine.—*Amer. Journ. of Pharmacy*, November, 1885.

MASSAGE OF THE PROSTATE FOR RETENTION.

A Dutch surgeon, Dr. Le Rütter, has found means to subject the prostate to a kind of massage, and in this way has completely cured two patients of the ages of "over 50" and 70 respectively. The method employed is to pass the forefinger up the rectum, and then to move the prostate to the right, left, and in a vertical direction, three times each way, rubbing it firmly afterwards. This proceeding is, as may be supposed, rather disagreeable to the patient (to say nothing of the operator's sensations), and it cannot be borne for long at a time. In one of the cases twenty massages, and in the other fifteen, were required to effect complete restoration of the power to pass urine freely. In both a small amount of bleeding took place from the urethra, caused by the manipulation of the prostate, for which liquor ferri sesquichloridi was given with a satisfactory result.—*British Medical Journal.*

THE CHEMICAL COMPOSITION OF THE LEAVES OF THE ERYTHROXYLON MONOGYNUM (VEL INDICUM).

Since the discovery, about a year ago, of the valuable properties possessed by cocaine and its salts as effective and manageable local anæsthetics, extreme interest has been excited throughout the medical world in the coca-plant. In India there is an indigenous species of the erythroxylon plant, namely, the monogynum; and it is interesting to ascertain whether or not this species contains an alkaloid identical with cocaine or possessed of similar properties. Such, however, proves not to be the case. The leaves of this plant have been subjected to analysis by Professor L. A. Waddell, of Calcutta (*Indian Medical Gazette*, September, 1885), who has shown that no cocaine-like alkaloid is present in this plant; and indeed the presence of any alkaloid or glucoside at all is rendered unlikely; for most alkaloidal bodies, with the exception of hygrine, would have been isolated by the processes employed.

THE CHLOROFORM TREATMENT OF TAPEWORM.

Dr. L. E. Borcheim, of Atlanta, Ga., writes to the *Medical Record* for November 7, 1885, as follows: "Having been one of the opponents of the method of treating tapeworms to a dose of chloroform, I think it my duty to record the result of a more extensive experience with this remedy. I have employed it in six cases since the publication of my last letter, and in all with success, and without any unpleasant effects worth mentioning. The promptness of the action of the drug is such that I think it should receive the preference over others, at least for the first attempt. Should it fail (and what remedy is there that will not sometimes fail?) the inconvenience suffered by the patient is so slight that he will not hesitate to repeat the dose should it be deemed advisable. My plan is to order an early and light supper, and then instruct the patient to take before breakfast, the following morning, 1 drachm of chloroform, with from ½ to 2 minims of croton oil. A prompt action is insured by the croton oil, and to

it, I believe, is due in great measure the success of this mode of treatment."

To this the editor of the *Record* adds:

"The writer is, we fear, a little too positive in his assertion of the harmlessness of chloroform. Cases have been reported in these columns, and elsewhere, in which alarming symptoms have followed the exhibition internally of this drug, and we should not be surprised to learn that its use in this manner had even been attended by fatal consequences."

DEATH OR COMA.

The close similarity which is occasionally seen to connect the appearance of death with that of exhaustion following disease was lately illustrated in a somewhat striking manner. An infant, seized with convulsions, was supposed to have died about three weeks ago at Stamford Hill. After five days' interval, preparations were being made for its interment, when, at the grave's mouth, a cry was heard to come from the coffin. The lid was taken off, and the child was found to be alive, was taken home, and is recovering. Such is the published account of the latest recorded case of suspended animation. We need not now attempt a dissertation on the physical meaning of coma. It is well known that this condition may last for considerable periods, and may at times, even to the practised eye, wear very much the same aspect as death. In the present instance, its association with some degree of convulsion may easily have been mistaken by relatives, dreading the worst, for the rigid stiffness of *rigor mortis*. This is the more likely, since the latter state is apt to be a transient one in infants, though it is said to be unusually well marked in death from convulsions. One cannot, however, help thinking that the presence of the various signs of death was not, in this case, very carefully inquired into. It is hardly possible that had the other proofs as well as that of stiffening been sought for, they would have been missed. It is true that hardly any one sign short of putrefaction can be relied upon as infallible. In actual death, however, one may confidently reckon on the coexistence of more than one of these. After a period of five days not one should have been wanting. Besides *rigor mortis*, the total absence of which, even in forms of death which are said not to show it, we take leave to doubt, the *post mortem* lividity of dependent parts affords sure proof, as its absence suggests a doubt, of death. Then there is the eye, sunken, with glairy surface, flaccid cornea, and dilated insensitive pupil. Most practitioners, probably, are accustomed to rely upon stethoscopic evidence of heart-action or respiration. These alone, indeed, are almost always sufficient to decide the question of vitality, if they be watched for during one or two minutes. There is no information as to whether the child so nearly buried alive was seen by a medical man. It is difficult to believe that, if it had been, some sign of life would not have been observed. Still, the case is a teaching one, even for medical men, and warns us to look for a combination of known tests where any doubt exists as to the fact of death.—*Brit. Med. Journ.*, October 31, 1885.

APOMORPHINE IN CROUP AND BRONCHITIS.

DR. STUTZ, of Neuminster, is loud in his praises of apomorphine, subcutaneously injected in diphtheria complicated with croup, and in primary croup itself. Of ten of these latter cases he lost only one, and this he attributes to his not having been called in quickly enough. Similar treatment is also very valuable in dyspnœa due to bronchitis. He has also been successful in cases of arsenical poisoning in children, and in one where a woman had such severe pharyngitis that she was quite unable either to swallow or speak. An apomorphine injection quickly emptied the stomach of pus and mucus, and enabled her both to speak and swallow.—*British Med. Journ.*, October 17, 1885.

REMOVAL OF THE LARYNX.

At the meeting of the Surgical Section of the Canadian Medical Association, on September 3, DR. PARK, of Buffalo, gave an account of a case in which he had removed the larynx for epithelioma of the vocal cords. The patient was an elderly medical man, who had suffered for some years from laryngeal trouble. The operation was performed on January 28. The parts healed up rapidly. Gussenbauer's tubes were afterwards inserted, and at the time of the report the patient could speak easily and distinctly.

CORRIGENDUM.—In the November number of the GAZETTE, on page 744, under the head of "Notes on Cocaine," the words "cocoa-leaves" on the third line should read "*coca*-leaves."

INDEX TO VOLUME I., THIRD SERIES.

(WHOLE SERIES, VOLUME IX.)

PAGE

Able, S. V., Physiological Action of Oils of Wintergreen and Birch ... 299
Abortion, Potassium Iodide in ... 576
  Viburnum Prunifolium in preventing ... 624
Abrus-Poisoning, Nature of ... 646
Acetal ... 187
Acetonuria and Diabetes, Pathogenesis of ... 629
Acids and Alkalies, Antagonism between, on Heart and Arteries ... 204
Acne, Treatment of ... 55
Aconite in Croupous Pneumonia ... 217
  Indian ... 642
Aconitum Ferox, Therapeutic Action of ... 135
Adonis Cupaniana, Active Principle of ... 626, 791
  Vernalis and Convallaria Majalis ... 475
Agaricin, Influence of, on Perspiration ... 61, 335
Agnew, D. Hayes, Salvia Officinalis in Catarrhal Rhinitis ... 17
Air-Passages, Treatment of Inflammation of ... 564
Albuminuria by Mercury and Syphilis ... 551
  Treatment of ... 625
Alcoholism, Strychnine a Specific for ... 552
Alimentary Tract, Aseptic Treatment of ... 402
Alkaloidal Solutions, Preservation of ... 500
Allen's Hair Restorer, Mrs. ... 648
Aloin and Aloetin in the Animal Organism ... 835
Aloine ... 553
Alopecia, Treatment of ... 134
Amblyopia, Pilocarpine in ... 634
Amenorrhœa, Permanganate of Potash in ... 338, 418
American Rhinological Association ... 641
Amyl-Valerianic Ether ... 190
Anæmia, Reduced Iron in Treatment of ... 132
Anæsthesia, New Method for Producing ... 558
  Rapid, by Ether ... 343
Anæsthetic, Methyl-Chloride as a Local ... 412
Anæsthetics and their Administration ... 57
Anderson, L. B., Therapeutic Value of Ice ... 367
  Sanguinaria Canadensis ... 805
Angina Pectoris, Treatment of ... 820
  Dietetic Factor in Treatment of ... 197
Anisic Acid as an Antipyretic ... 499
Antipyresis, Physical and Medicinal ... 678
Antipyretic Treatment, A Novel ... 216
Antipyretics ... 538
Antipyrine ... 828
  Action of ... 38, 344, 405, 432
  and Thalline ... 555
  Death after Use of ... 257
  Eruption following Use of ... 773
  in Children ... 129, 677
  Note on ... 176, 517, 769
  Test for ... 283, 629
  Unfavorable Symptoms after the Use of ... 862
  Untoward Effects of ... 766
Antiseptic Dressing, An Improved ... 216
  New Permanent ... 266
  Ointment, An ... 575
Antiseptics, Some Remarks on ... 724
Antithermic Medication ... 577
Antivivisectionists, Facts for ... 69
Anuria, Persistent ... 431
Aorta, Aspiration of the, for Sudden Pulmonary Congestion ... 832
Aortic Aneurism, Operative Treatment of ... 647
Aphasia ... 621
Apomorphine, Anæsthetic Action of ... 524
  as an Emetic ... 266
  in Croup and Bronchitis ... 864
  in Nervous Affections ... 255
Apoplectic Death, Case of Sudden ... 113
Arabian Desert, Domestic Remedies of the ... 427
Arbutin ... 144, 311, 644
Archibald, H. C., Convulsions Due to Overfeeding ... 234
Arnica, Accidents from Tincture of ... 52
Arsenical Poisoning, Case of Acute ... 519, 668
Articular Rheumatism, Masked ... 483
  Note on Treatment of ... 830
Aseptol ... 455
Asthma, Atmospheric Pressure in ... 477
  in Young Children ... 60
  Points in Treatment of ... 735, 738
  Treatment of ... 632
Asthmatic Conditions, Surgical Treatment of ... 477
Atropine in Acute Otitis in Children ... 44

PAGE

Atropine Poisoning, treated by Jaborandi ... 787
"Aveloz," or the Brazilian Cancer-Cure ... 862

Bacilli Tuberculosi, Latest Method of Dyeing ... 333
Bacteriotherapy ... 719
Belladonna, with Iodide of Potassium ... 467
  Plaster, Alarming Symptoms from ... 313
  Poisoning, Curious Case of ... 520
Berens, C., Physiological Action of Chinoline Tartrate ... 433
Berlin Letter ... 784, 852
Bladder, Treatment of Rupture of ... 462
Blennorrhagic Hæmaturia, Treatment of ... 620
Blood Injections into Pleural Sac ... 396
  Subcutaneous ... 389
Blood-vessels, Local Action of Drugs on ... 246, 426
Boldo, Glucoside of, Substitute for Cocaine ... 500
Boracic Acid, Action and Application of ... 34
Bowels, Hamamelis in Hemorrhage from ... 269
Brain, Excision of Tumor from ... 125
Breast, Amputation of ... 472
Bromidrosis of Feet, Treatment of ... 342
Bronchial Asthma in Children ... 352
Bronchitis in Children, Chronic ... 535, 540
  Treatment of ... 30, 114
  Yerba Santa and Grindelia Robusta in ... 792
Broths and Soups ... 741
Brucine ... 834
Brucine and Bromo-Strychnine, Physiological Action of ... 398
Bruen, Edw T., Convallaria Majalis ... 20
Brundaga, F. M., Case of Opium-Poisoning ... 305
Burns, Novel Treatment of ... 704
  Oil of Peppermint for ... 648
Burroughs, J. B., Nitroglycerin a Substitute for Alcoholic Remedies ... 450
Buttermilk in Sick Stomach ... 221

Cæsarean Section, Indications for ... 755
Caffeine ... 177, 457, 477
  and Theobromine, Elimination of ... 182
  Anæsthetic Action of, on the Eye ... 69
  Poisoning, Rare Case of ... 717
  Theine, and Guaranine, Action of ... 584
  Therapeutic Applications of ... 36, 717
Calcium Chloride, Value of ... 576, 774
Camphor, Bromide of ... 761
Canada Thistle, Alkaloid of ... 679
Cancer, Chemical Reagent for ... 347
Cannabine Tannate ... 379
  Test for ... 283
Cannabinon ... 286, 329
Cannabis Indica, an Overdose of ... 18
Canned Foods, Dangers of ... 604
Cantharides, Action of, upon the Kidneys ... 817
Carbolic Acid and Chloral Hydrate ... 716
Carbolic Acid, Case of Poisoning by ... 48, 143
  in Purulent Affections of Cornea, etc ... 202
  Watery Solutions of ... 533
Carbon Bisulphide, Influence of Vapors on Vision, etc ... 267
Carbuncle ... 669
Cardiac Weakness ... 334
Casca Bark ... 571
Cascara Sagrada ... 287, 399, 502, 595
  Influence of, on the Digestive Secretions ... 813
Castor Oil, Administration of ... 432
Catarrhal Deafness, Ol. Gaultheria and Galvanic Electricity in Chronic ... 451
Catheter, Painless Method of Using ... 539, 715
Cedron Seed ... 354
Cerebral Hemorrhage, Treatment of ... 464
  Surgery, Statistical Contribution to ... 341
Cerebro-spinal Meningitis again ... 139
Cheatham, W., Jequirity ... 20
Cheken ... 24
Chenery, E., Indications for Pil. Iricin Comp ... 174
  Points in Treatment of Asthma ... 738
Chicago as a Cholera Centre ... 823
Children, Alimentation of Young ... 686
  Valuable Symptoms of Diseases of ... 184
Chinoline Tartrate, Physiological Action of ... 433
Choral, Local Application of, in Diphtheria ... 836
Chloral Hydrate, Incompatibility of ... 576, 740
Chlorate of Potassium, Poisoning by ... 861
Chloroform, Causes and Prevention of Death from ... 319

PAGE

Chloroform, Constant Use of ... 792
Narcosis, Restoration of Respiration in ... 702
Poisoning by ... 531, 785
Water ... 191
Cholagogues ... 262
Cholera, Epidemic, Teachings of Paris ... 360
Infantum, Morphine in ... 542
Treatment of ... 467, 703
Inoculation for ... 386
Pathology and Therapeutics of ... 144
Precautions against ... 142
Tannic Acid Injections in ... 271
Treatment of ... 116, 127, 462
Vaccination against ... 353, 427
Chorea, Bromide of Camphor in ... 574
Treatment of ... 756, 836
by Continuous Inhalation of Chloroform ... 272, 289
Chromic Acid in Diseases of Nose and Pharynx ... 792
Chrysarobin Staining, Prevention of ... 288
Chrysophanic Acid, External Use of ... 474
Cinchonamine, Sulphate of ... 359
Cinchonidine and Picrotoxine ... 271
Citrine Ointment, Substitute for ... 68
Coca, Valoid of ... 207
in Fatigue ... 263
Coca-Leaves, New Extract from ... 498
Cocaine ... 45, 109, 226, 238, 242, 268, 285, 386, 524, 695, 716, 744
Dangers of ... 720
Effect of, on Wounds ... 630
in Affections of the Larynx ... 64
in Diarrhœa of Teething ... 789
in Infantile Coryza ... 574
in Membranous Croup ... 637
in Nervous Cough, etc ... 774
in Ophthalmic Surgery ... 22
in Sea-Sickness and Cholera Nostras ... 791
in the Use of the Stomach-Tube ... 716
Olive Oil as Menstruum for ... 573
and Bromine, Physiological Action of ... 372
and its Substitutes, Effects of, on the Vascular System ... 818
as an Analgesic ... 568
in Dipsomania ... 500
in the Opium Habit ... 426, 767
in Venereal and Specific Disorders ... 417
Opacity of Cornea produced by ... 410, 574
Solutions, Preservation of ... 457
with Pilocarpine ... 467, 470
Hydrochlorate, Action of ... 47
in Nasal Affections ... 267
in Otalgia ... 175
in Urethral Spasm in Females ... 278
in Vomiting of Pregnancy ... 195
Test for ... 283
Codeine ... 688
Collapse, Ammonia in Treatment of ... 404
Comma Bacillus, Vaccination of Rabbits with ... 352
Common Salt in the Treatment of Pleurisy ... 861
Condurango Bark ... 574
Coniine and Conhydrine ... 570
Conium, Death from Extract of ... 648
Conjunctivitis, Purulent and Gonorrhœal ... 487
Treatment of Croupous and Diphtheritic ... 397
Purulent ... 552
Constipation and its Effects ... 414
in Young Children ... 504
Continued Fever ... 145
Convallamarin, Action of, on Nervous System ... 598
Convallaria ... 35
Majalis ... 28
Irritant Properties of ... 630
Convulsive Cough of Children, Treatment of ... 618
Copper Salts, Reactions of, with Grape-Sugar ... 160
Corn Cures ... 71
Cornutine and Ergotinine ... 357
Corpulence, Treatment of ... 62, 458
Correction, A ... 316
Corrosive Sublimate, Alleged Dangers of, as an Antiseptic ... 341
Coryza in Children, Treatment of ... 71
Cotoïn and Paracotoïn ... 328
Cotoine ... 764
Cough, Vapor of Glycerin in Obstinate ... 72
Croup, Muriate of Pilocarpine in ... 666
Treatment of Membranous, Diphtheritic, and True ... 343
Culbertson, R. H., New Remedies ... 172
Cupreinum and Cinchonaminum ... 549
Curarinum Sulphuricum ... 542
Cutaneous Diseases, Turpentine Internally in ... 322
Cuticle, Absorbent Power of the ... 572
Cystitis, Naphthalin in ... 276
Treatment of ... 498
Chronic, in Women ... 688

Dana, C. L., the Vaso-Motor Neuro-Mechanism ... 505
D'Ary, R., Cascara in Chronic Constipation ... 595
Datura-Poisoning, Symptoms of ... 692
Stramonium Seed Poisoning ... 786
Day, George E., Case of Sudden Apoplectic Death ... 113
Death or Coma ... 864
De Lannoy, W., Case of Arsenical Poisoning ... 668
Delirium Tremens, Capsicum Annuum in ... 642
Myoscyamine in ... 268
Treatment of ... 10
Dercum, F. X., Cases of Spinal Diseases ... 151
Dermatitis Exfoliativa Neonatorum ... 334
De Schweinitz, G. F., Effects of Powerful Electric Currents ... 19
Diabetes, Buckwheat Flour in ... 430

PAGE

Diabetes Insipidus, Treatment of ... 356
Mellitus, Dietetic Treatment of ... 329
and the Carbo-Hydrates ... 644
Cured by Removal of Uterine Appendages ... 549
Notes on ... 772
Salicylate of Sodium in ... 446
Dialyzed Peptone-Iron ... 719
Diarrhœa, Contribution to Therapeutics of ... 430
Diarrhœas ... 525
Dietetic Errors in Feeding Infants ... 317
Digestive Functions, Carlsbad Cure on the ... 751
Digitaline, New Reaction for ... 531
Digitalis, Action on Reptilian Heart ... 118
Substitutes for ... 469
The Action and Uses of, with Special Reference to Strophanthus ... 839
Therapeutics of ... 469
and Hellebore, Cumulative Action of ... 313
Dimethylacetal and Chloroform ... 545
Diphtheria, Electric Current in ... 689
Chloride of Aluminium in the Treatment of ... 829
New Remedy against ... 264
Sedum Acre in ... 449
Statistics on Treatment of ... 542
Treatment of ... 28
Diphtheritic Membrane, Trypsin as Solvent for ... 258
Apparatus for Removing ... 288
Disinfectants ... 189
Disinfection ... 384
By Sulphurous Acid ... 52
of Discharges ... 569
Diuretics, Action of ... 684
Doses, Heroic or Poisonous ... 504
Doubtful Case, a very ... 283
Dropsy, Treatment of, by Concentrated Solution of Cathartics ... 321
with Saline Cathartics ... 782
Drowning, Life Saving from ... 201
Druggist's Mistake, A ... 570
Drugs, Investigations on some New ... 751
Untoward Effects of ... 306
Duboisine, Case of Poisoning by ... 360
Dujardin-Beaumetz, Antiseptic Intestinal Medication ... 165
Antithermic Medication ... 577
The New Hypnotics ... 790
Duodenal Ulcer ... 394
Dysentery, Treatment of ... 764
Chronic ... 49
Use of Ipecacuanha in ... 359
Dyspepsia, New Remedy for ... 184
Pathology of ... 431
Treatment of Congestive ... 790
and Menorrhagia, Novel Remedies in ... 193
Cocaine in ... 265

Earache, Treatment of Acute ... 478, 499, 641
Cocaine in ... 483
Eclampsia, Oxygen in ... 573
Eczema of Eyelids, Treatment of ... 413, 691
with Oleate of Copper ... 859
Edes, Robt. T., Therapeutical Evidence ... 90
Eklund, A. F., Treatment of Puerperal Peritonitis ... 591, 653
Electric Currents, Effects of Powerful ... 19
Shock, Atropine in ... 205
Emetics, Therapeutic Value of ... 326
Empyema, Treatment of ... 395, 496
Enterectomy, Intestinal Suture after ... 575
Enteroraphy, New Suture for ... 753
Enuresis of Children, Treatment of ... 537
Rhus Toxicodendron in ... 648
Epididymitis, Treatment of, with Bismuth ... 771
Treatment of, by Oil of Yellow Sandal-Wood ... 835
Epilepsy caused by Dental Caries ... 758
Ligation of Vertebral Artery for ... 684
Notes on Treatment of ... 112
Simultaneous Use of various Bromine Salts in Treatment of ... 41
Treatment of, by Osmic Acid ... 51
Epistaxis, Treatment of ... 196
Epithelioma of Eyelid removed by Benzol ... 758
Ergot ... 206
How to Test ... 500
Ergotin, Ergotinin, etc., Action of ... 132
in Diseases of the Lung ... 200
Erratum ... 648
Erysipelas, Treatment of ... 687
Erythroxylon Monogynum (vel Indicum), Chemical Composition of the Leaves of ... 863
Escharotic, A Painless ... 200
Ether, A New ... 499
An Impurity in ... 355
as an Expectorant ... 141
Etherization by the Rectum ... 61
Ethyl, Bromide of ... 383
Eucalyptus, a Case of Poisoning by ... 862
Globulus, Action of ... 674
and Jaborandi, Therapeutic Uses of ... 352
Euonymin ... 39, 143, 787
Euphorbia Pilulifera, Contribution to the Study of ... 92
in Respiratory Affections ... 316
Explosive Physic ... 642
Eye, Case of Enucleation and Replacement of ... 720
Hysterical Affections of ... 102
Transplantation of an ... 640

Facial Neuralgia treated by Nerve Vibration ... 198
Muriate of Ammonium in ... 214

PAGE

Fat Absorption ... 743
Febrile Disease, Digitalis in Acute ... 559
Femur, Treatment of Fracture of, without Splints ... 202, 714
Fenn, C. M., Note on Hæmoptysis ... 371
Fever, Nothnagel on Treatment of ... 135
  Cold-Water Treatment of ... 31
Figs, Peptonizing Ferment in ... 627
Fistula in Ano, New Operation and Instrument for ... 700
Fœtus, Destruction of, by Morphine ... 202
Foods, Carbohydrate and Fatty ... 732
Forceps, Dr. Neale's Modification of Dr. Felsenreich's Modification of Prof. Alexander Simpson's Axis-Traction ... 815
Foxglove-Poisoning, Acute ... 670
Frog's Ventricle, Action and Antagonism of Some Drugs on ... 73
Frost-bite, Treatment of ... 72

Gall-Stones, Structure of ... 559
Gangrenous Intestine, Treatment of ... 407
Gastralgia, Coca-Leaves in ... 790
Gastric Affections with Malarial Basis ... 560
  Disorders, Dry Food in ... 48
  Mucous Membrane, Elimination of Drugs given Subcutaneously by ... 356
  Neuroses ... 331, 410
  Ulcer, New Treatment of ... 195
Gelsemium and Reputed Antidotes ... 655
  Poisoning ... 859
Genital Malformation, A Rare ... 428
Glaucoma produced by Homatropine ... 216
Glottis, Œdema of, in a Case of Tabes ... 789
Glycerin for Dry Tongue and Thirst in Fever ... 432
Goitre, Ergotinine Injections in ... 829
Gonorrhœa in Women, Importance and Diagnosis of ... 833
  New Treatment for ... 273
  New Treatment of ... 277, 702
  Unna's Treatment of Chronic ... 332
Gonorrhœal Epididymitis treated by Clay to Scrotum ... 58
  Rheumatism ... 486, 822
    Injections of Corrosive Sublimate in ... 72
  Vaginitis, Glycerite of Iodine in ... 573
Gout, Remedy for ... 504
  Regimen in ... 628
Gouty Obesity and Dyspepsia, New Remedy in ... 482
Granular Lids, Jequirity as a Remedy for ... 261
Granulating Surfaces, Nutritive Dressing of ... 303
Guitéras, John, Continued Fever ... 145

Hæmoglobin Pills ... 530
Hæmoptysis, Acetate of Lead in ... 197
  Note on ... 371
  Significance and Treatment of ... 256
Hæmostatic Agent, Chloroform as an ... 772
  A New ... 753
Habitual Constipation, Treatment of ... 790
Hamamelis Virginica, Properties of ... 379
Hands, To Disinfect the ... 631
Haralson, H. H., Carbuncle ... 669
Harlan, Geo. C., Hysterical Affections of Eye ... 102
Hay Fever and its Successful Treatment ... 199, 552
  Cocaine in ... 754
Hay, Geo., Reactions of Copper Salts with Grape-Sugar ... 160
Heart and Blood-vessels, Cocaine, Atropine, and Caffeine on ... 544
Heart Disease, Milk Diet in ... 526
  Natural Mineral Waters in ... 254
Heat Apoplexy, Prevention of ... 400
Hemorrhoids, Treatment of ... 454
Hepatitis and Hepatic Abscess, Operative Treatment of ... 39
Hernia, Elastic Bandage in Strangulated ... 474
Herr, F. C., Cascara Cordial in Malaria ... 670
Hiccough, Cure for ... 216
  relieved by Nitro-Glycerin ... 696
Hip Joint Disease, Early Treatment of ... 475
Hippurates of Lime in Therapeutics ... 775
Hoarseness, Treatment of ... 345
Hopeine ... 629
Hopkins, W. B., Nutritive Dressing of Granulating Surfaces ... 303
Hornet Sting, Case of ... 720
Hot-Water Craze ... 497
Human Milk, Test for ... 286
Hurd, E. P., Treatment of Delirium Tremens ... 10
Huston, A. G., Retrospective and Prospective Therapeutics ... 229
Hydrargyrum Tannicum ... 288, 607
Hydrastine, Hydrochlorate of ... 270
Hydrastis Canadensis, Physiological Action of ... 198, 768
Hydrocele, Treatment of Congenital ... 556
  with Corrosive Sublimate ... 791
Hydrochinon, New Antipyretic ... 467, 617
Hydrofluoric Acid, Therapeutic Employment of ... 700
Hydrogen Peroxide ... 393
  in Aural Therapeutics ... 409, 689
Hydrophobia, Application of Cocaine in ... 394
  Pasteur's Researches on ... 720
  Prophylactic Treatment of ... 816
Hyoscine Hydrobromate in Insanity ... 107
  Hydrobromate of, Note on ... 594
  in Puerperal Mania ... 860
  Physiological and Therapeutic Action of ... 1, 760
Hyoscyamine, A Physiological Study of ... 649
Hyoscyamus as a Hypnotic ... 283
  Effects of an Overdose of ... 213
Hysterical Fever ... 318
  Paralysis and its Treatment ... 693

Ice, Therapeutic Value of ... 367
Ichthyol ... 432
Impotency, Remedies in ... 626, 695

PAGE

Index Medicus, The ... 183
Indian Materia Medica ... 502
Indigestion, New Cure for ... 288
Infantile Convulsions, Treatment by Belladonna ... 467
  Paralysis, Electricity in ... 537
Infants, Artificial Nutrition of ... 536
  Thermic Fever of ... 453
Infected Dwellings, How to Disinfect ... 697
Inflammation, Beets as a Local Application in ... 356
Influence of Various Foods on Digestion ... 829
Ingrowing Toe-Nails, Cocaine in ... 533
Ingrown Toe-Nail, Treatment of ... 104
  Carbolized Resin in ... 288
Inorganic Foods ... 513
Insanity with Amenorrhœa, Potassium Permanganate in ... 403
  Hydrobromate of Hyoscine in ... 697
  and Camellia ... 757
  Indian Hemp as Cause ... 429
Insect Stings, Wash for ... 647
Intermittent Fever, Nitro-Glycerin in Cold Stage of ... 225
  Treatment of, with Tincture of Iodine ... 562
Intestinal Medication, Antiseptic ... 165
  Obstruction, Morphine in ... 645
  New Method of Treating ... 272
  Occlusion, Electricity in ... 539
  Strangulation, Treatment of ... 54
Intra-Uterine Disease, Treatment of ... 42
  Medication ... 214
Intussusception, Seltzer Water Injections in ... 715
Iodic Purpura ... 835
Iodide of Methyl as a Vesicant ... 828
Iodism, Influence of Bromides on Prevention of ... 430
Iodoform Collodions, Use of ... 766
  Odorless ... 606
  Physiological Action of ... 45
  to Deodorize and Prescribe ... 510
  Toxic Action of ... 354, 457
Irisin, Compound Pill of, Indications for ... 174
Iritis, Treatment of ... 401
Iron, Liquid Acetate of ... 641
"Isolating Medication" ... 816
Itch, Treatment of ... 789

Jaborandi, Alkaloids of ... 642
Jamaica Dogwood, Examination of ... 358
Japanese Compliment, A ... 532
Jequirity ... 20, 193, 617

Kairine and Antipyrine, Simultaneous Use of ... 630
  as an Antipyretic ... 191
  Notes on ... 122
Kaolin ... 532
Keating, J. M., Effect of Grape-Sugar on Urine of Children ... 24
Kemper, W. G., Remedies employed in Typhoid Fever ... 447
Keratin Pills ... 199
Keyser, P. D., Cocaine in Ophthalmic Surgery ... 22
Kidney, Nitro-Glycerin in Contracted ... 395
Knee, Erasion of the ... 683
Kola ... 223
Koumiss ... 785
Kumiss Kefir ... 187

Labor, Management of the Third Stage of ... 834
Lactation, Cause and Therapeutics of Insufficient ... 838
Lactic Acid, Therapeutic Application of ... 792
Lantanine, a New Alkaloid ... 754
Laparotomy, Self-Delivery by ... 259
Laryngitis, Treatment of Chronic Glandular ... 51
Larynx, Removal of ... 864
Laxatives, Three New ... 204
Lead-Poisoning, Chronic ... 128, 814
  in Infants ... 353
Liebig's Extract of Meat ... 758
  Fit Cure ... 71
Lime, Action of Phosphate of ... 575
Liquor Laws of the United States ... 143
Locomotor Ataxia, Treatment of ... 120
Lupus, New Treatment of ... 335

Madagascar, Ordeal Bean of ... 788
Malaria, Cascara Cordial in ... 670
  Pereirinum Muriaticum in ... 432
  Splenic Bruit in ... 530
  Unusual Effects of ... 740
Malarial Fever, Injection of Carbolic Acid in ... 55
  Hæmaturia treated with Quinine Subcutaneously ... 189
  Tetanus ... 558
Malignant Tumors, Injections of Turpentine in Treatment of ... 72
Malt Extracts as Food ... 134
Mammary Abscess, Prevention of ... 837
Manaca, Fluid Extract of, in Rheumatism ... 564
Marsset, A., Contribution to the Study of Euphorbia Pilulifera ... 92
Massage of the Prostate for Retention ... 863
Mastitis, Treatment of ... 324
Mays, Thos. J., Aconite in Croupous Pneumonia ... 217
  Action and Antagonism of Some Drugs on Frog's Ventricle, of Caffeine, Theine, and Guaranine ... 73, 584
  External Therapeutics and Dietetics of Pulmonary Consumption ... 361
  Physiological Action of Cocaine and Brucine ... 372
Meat Diet, Formation of Acids by ... 698
Medical Advertising ... 351
  Research, Government Aid to ... 121
Medicines, Proper Time to take ... 398
Medico-Legal Cases ... 105, 233
Mental Affections, Ergotine in ... 607

PAGE

Mental Disease, Cure of, by Cranial Counter-Irritation..... 626
Menyanthes Trifolnata..... 274
Mercuric Chloride in Childbed, Use of..... 527
Mercury, Comparative Action of Preparations of..... 263
Tannate of..... 471
Metals, Toxic Properties of..... 413
Methyl, Salicylate of..... 791
Metric System, The..... 822
Metritis, Treatment of Chronic..... 683
Migraine, Treatment of..... 554
Milk, Increasing Digestibility of..... 546
Intravenous Injection of..... 474
Miller, E. L., Salicylate of Potassium in Acute Rheumatism... 222
Mills, Chas. K., Notes on Treatment of Epilepsy..... 112
Mineral Waters, Aperient, in Diseases of Ear, Throat, and Chest..... 521
New Use of..... 768
Miscarriage, A New Preventive of..... 412
Mitchell, John K., Antipyrine..... 176
Mitchell, Sollace, Treatment of Typhoid Fever in New York Hospitals..... 377
Treatment of Pleurisy in New York Hospitals..... 721
Monnet, L. E., Kola..... 223
Morphine-Poisoning in a Child, Case of..... 641
Mullein in Phthisis and Asthma..... 144
Muriate of Cocaine, Case of Poisoning by..... 860
Muscular Tremor, Veratrine in..... 265
Musk..... 452
Mydriatic, A New..... 791
Myoctonine and Lycaconitine..... 411
Myringitis relieved by Cocaine..... 572

Nævus, Treatment of, by Ethylate of Sodium..... 791
Naphthalin..... 412, 697
in various Intestinal Disorders..... 63
Naphthaline, Abortive Agent of Typhoid Fever..... 676
Narcotic, Cannabis Indica as a..... 772
Nephritis, Action of Nitro-Glycerin on..... 770
Nephrotomy for Total Suppression of Urine..... 862
Ne Sutor Ultra Crepidam..... 72
Neuralgia, Aconitine in..... 400
Chloride of Methyl in..... 472
Gelsemium in Treatment of..... 69
Jamaica Dogwood in..... 207
Perosmic Acid in Treatment of..... 64
New Antiseptics, Hydronaphthol and the Potassio-Mercuric Iodide, Notes on..... 825
New-Born Child, Method of Resuscitating the..... 411
Newspapers of To-Day..... 428
Nickel and Cobalt Alloys, Influence of..... 700
Night-Sweats, External Treatment of..... 527
Nipples, Cocaine in Inflamed..... 333
Nitrate of Silver, External Application of..... 409
Nitro-Glycerin..... 831
and Nitrite of Sodium, Action of..... 250
a Substitute for Alcoholic Remedies..... 450
Therapeutic Use of..... 60
Nitrous Oxide Gas, Death from..... 285
Norwine, J. J., Unusual Effects of Malaria..... 740

Obesity..... 405
Œsophageal Cancer, Treatment of..... 270
Oleomargarine, Detection of..... 430
Oleum Thujæ and its Constituents, Action of..... 827
Ophthalmia Neonatorum, Prophylaxis of..... 133, 264
Opium, Nitrite of Amyl as Antidote for..... 431
Poisoning, Case of..... 305
Apomorphine in..... 716
Dr. Reamy's Case of..... 121
Orchitis, Phytolacca Decandra in..... 622
Orcine..... 751
Organic Decomposition, Poisons of..... 244
Otitis, Local Treatment of Suppurating..... 252
Media, Treatment of Chronic..... 557
Otorrhœa, Treatment of..... 826
Overfeeding, Convulsions due to..... 234
Oxalic Ether..... 418
Ox-blood, Desiccated..... 403
Oxygen in Asphyxia and Poisoning..... 328
Oxygenated Water..... 464
Oxytocic, a New..... 720
Ozoneine..... 461

Palatable Prescribing..... 181, 212
Pancreas, Surgical Treatment of Cysts of..... 541
Paraldehyde..... 144, 247, 262, 715
and Piscidin..... 126
Test for..... 283
as a Hypnotic..... 535
as an Antidote to Strychnine..... 788
Rheumatic Tetanus cured by..... 57
Paris Hospitals, Drugs for..... 288
Parthenine, a New Drug..... 359
Parturition, Influence of Cimicifuga Racemosa on..... 336
Patten, A., Pneumonia..... 234
Peare, R. J., Buttermilk in Sick Stomach..... 221
Peptonization..... 188
Peptonized Soup..... 479
Perineum, Prevention of Laceration of..... 761
Peripheral Neuralgia, Osmic Acid in..... 535
Peritoneal Transfusion..... 44
Peritonitis, Treatment of..... 480
Acute, by Abdominal Section..... 390
Permanganate of Potassium Baths..... 720
Peruvian Bark Powder Internally..... 636

PAGE

Petreoline, Preservation of Food by..... 353
Pharmaceutical Congress, International..... 287
Pharmacological Notes..... 405, 861
Pharmacopœias..... 746
Pharynx, Galvanism in Diseases of..... 540
Phenol-Camphor..... 269
Phormium Tenax..... 321
Phosphorus Pills, Phosphorated Tolu for..... 356
Toxic Nature of..... 701
Phthisis, Iodoform in..... 687
"Physiological Notes"..... 427
Pilocarpine, Action and Value of..... 49
Local Sweating by..... 131
Muriate of, in Hiccough..... 572
Piscidia Erythrina..... 455
Extract of..... 199
Pityriasis Versicolor, Pumice-stone in..... 463
Placenta, Morbidly Adhering..... 638
Plaster Bandage, how to Remove a..... 576
Pleurisy, Treatment of..... 466
Exudative..... 543
in New York Hospitals..... 721
Pneumonia..... 234
Treatment of, by Quinine..... 830
Poison, a New..... 642
Poisons, Influence of Heat on..... 687
Polypi, New Instrument for..... 756
Pomegranate-Root Bark, Crystalline Alkaloid from..... 501
Post-partum Hemorrhage, Preventive Treatment of..... 130
Potassium, Chlorate of..... 169
Action of..... 129
as a Gargle and Poison..... 673
Iodide and Bromide, New Method of Employing..... 399
Elimination of, by Urine..... 186
Rash resembling Variola..... 308
Poisoning from Yellow Chromate of..... 504
Pott's Disease, Continuous Traction in..... 265
Pregnancy, Milk Diet in Albuminuria of..... 465
Prescription, who owns a..... 144, 216, 429
Preston, G. J., Curious Case of Belladonna-Poisoning..... 520
Prostatitis, Treatment of Chronic..... 463
Pruritus, Veratrine in..... 575
Pseudo-Tabes caused by Sulphide of Carbon..... 200
Publisher's Notice..... 380
Puerperal Convulsions, Treatment of..... 50
Diphtheria..... 748
Fever, Relation of..... 334
Peritonitis, Rational Treatment of..... 591, 653
Pyrexia, Antipyrine in..... 418
Pulmonary Consumption, External Therapeutics and Dietetics of..... 361
Pyridine..... 484, 746
Pyrogallic Acid..... 561
Clinical Uses of..... 59
Pyuria, Treatment of..... 415

Quebracho Bark, Alkaloids of..... 318, 503
Quinine..... 33
Administration of..... 499, 568
Bi-Hydrobromate of..... 572
By Inunction..... 837
In Form of Suppositories..... 43
In Parturition..... 276
Subcutaneous Injection of..... 838
Tetanus after Hypodermic Injection of..... 133
Quinsy, Causes and Treatment of..... 826

Rachitis, Treatment of, with Phosphorus..... 52, 641, 827
Rag-Weed, Hæmostatic Properties of..... 626
Randolph, N. A., Carbohydrate and Fatty Foods..... 732
Inorganic Foods..... 513
Rat, Poisoning from Bite of a..... 284
Rattlesnake-Bite, Successful Treatment by Permanganate of Potassium..... 619
Rectal Cancer, Treatment of..... 690
Disease, Treatment of..... 639
Reder, Henry, Cocaine Hydrochlorate in Otalgia..... 175
Rehfuss, E. G., Gelsemium and its Reputed Antidotes..... 655
Remedies, New..... 172, 487
Resorcine, Therapeutic Value of..... 459
Reviews..... 65, 136, 207, 278, 348, 419, 488, 565, 635, 706, 776, 841
Rhamnus, Preparations of..... 745
Rheumatism, Antipyrine in Articular..... 747
Acute, Treatment of..... 813
Etiology of..... 488
Failure of Salicyl Compounds in..... 701
Salicylate of Potassium in Acute..... 222
Iron in..... 558
Syrup of Hydriodic Acid in..... 623
Treatment of, with Oil of Gaultheria..... 180
Rhigolene..... 245
Rhubarb Root, Chemistry of..... 647
Riley, Henry A., Medico-Legal Cases..... 105, 233
Ringworm, Croton Oil Treatment of..... 259
of Scalp, Treatment of..... 275
Robin, Death of Charles..... 790
Rodent Ulcer, Treatment of..... 719
Rose, A., Remarks on Antiseptics..... 724
Round Ligaments, Shortening of the..... 553
Rusby, Henry H., the New Chilian Drug "Pichi"..... 810

Salicylate of Soda, Action of, on Uterus..... 54
Salicylic Paper..... 215
Salvia Officinalis in Catarrhal Rhinitis..... 17
Sarcoma of Skin, Hypodermic Injection of Fowler's Solution in..... 486

PAGE

Sassafras, Toxic Properties of Oil of ... 554
Sayre, L. E., Cocaine ... 109
Sayres, Mr., Appointment ... 607
Scarlet Fever, Carbolic Acid in ... 465
Scalded Oatmeal in ... 206
Treatment of Sore Throat of ... 276
Schischm Seeds in Ophthalmology ... 189
Schmidt, Jos., Pharmacological Change in Relation to Therapeutic Action ... 369
Untoward Effects of Drugs ... 306
Clinical Observations with Hyoscyamine ... 808
Sciatica, Injections of Ether in ... 771
Osmic Acid in ... 277
Treatment of ... 318
Scrofula, Therapeutic Effects of the Salts of Copper in ... 831
Semilunar Cartilages, Operation for Displaced ... 406
Senega, Substitute for ... 606
Senna-Leaves, Active Principle of ... 331
Separated Members, Reunion of ... 499
Sepsis, Obstetrician Resume Practice after Exposure to ... 530
Septicæmia, Prevention of, in Adhering Placenta ... 404
Severe Sprains, Treatment of ... 330
Sexual Neurasthenia, Treatment of ... 623, 681
Shock and its Treatment ... 411
Shotwell, A. N., Ol. Gaultheria and Galvanic Electricity in Chronic Catarrhal Deafness ... 451
Sick, On Feeding the ... 608
Sierra Salvia ... 67
Skin Diseases in Children, Castor Oil in ... 546
Local Treatment of ... 43
Flaps, Transplantation of Large ... 564
Smallpox, External Application of Calcium Sulphide in ... 534
Incubation of ... 561
Snake-bite, Curious Symptoms of ... 788
Sodium Nitrite, Therapeutic Use of ... 324, 716
Salicylate, Rare Effects of ... 123
Spina Bifida, Treatment of ... 471
Spinal Ataxia, Doctrine of ... 616
Diseases, Cases of ... 151
Sponge as a Poultice-Carrier ... 417
Sprains, New Method of Treating ... 431
of Joints, Treatment of ... 201
Sputum, Spiral and Central Fibres in ... 603
Statistical Researches ... 531
Steller, H. S., Action of Convallamarin on the Nervous System ... 598
Stewart, F. E., Valoids ... 304
Stomach, Dilatation of, in Children ... 393
etc., Functional Emotions of ... 555
Stout, C. P., To Deodorize and Prescribe Iodoform ... 510
Strychnia, Elimination of ... 36
Strychnine-Poisoning, Chloral in ... 338
Sugar in the Blood ... 549
Sullivan, J. B., Acute Foxglove-Poisoning ... 670
Sunstroke, Antipyrine in ... 550
Treatment of ... 745
Surgery, Remarkable ... 524
Surgical Dressing, A New ... 766
Sweat, Influence of Pilocarpine and Atropine on ... 634
Swedish Movements as a Therapeutic Measure ... 459
Sympathetic, Paralysis of the ... 716
Syphilis, Bacilli of ... 705
Hydrarg. Formamidatum in ... 557
Iodide of Potassium in Cutaneous ... 484
Iodoform in ... 253, 643
Local Action of Calomel in ... 617
Treatment of ... 679
Secondary ... 396

Tabes Dorsalis, Impure Potassium Iodide in ... 574
Tangeman, C. W., Cheken ... 24
Tansy, Poisoning by Oil of ... 215, 342
Tapeworm, Chloroform Treatment of ... 672, 759, 784 860, 863
New Medicine for ... 287
Treatment of ... 461
Tasteless Quinine ... 863
Temperature, Effect of General Inunction on ... 627
Terpine, Therapeutic Employment of ... 605, 765
Te Salutamus ... 27
Tetanus after Hypodermics of Quinine ... 698
Infantum, Case of ... 769
Treatment of ... 471
Thallin, the New Antipyretic ... 192
Thalline ... 414, 576
Therapeutic Action, Pharmacological Change in Relation to ... 369
Evidence ... 90
Gazette ... 315
Therapeutics, Retrospective and Prospective ... 229
Thyme, Therapeutic Properties of ... 277
Tonsillitis, Cure for ... 562
Transfusion Apparatus, a Portable ... 186
Traumatic Tetanus, Cure by Nerve-Stretching ... 628
treated by Eserine ... 37
Trichinosis, Glycerin as Prophylactic against ... 407
Trichloroacetic Acid ... 62
Trigeminal Cough, The ... 823
Tubal Gestation treated by Electricity ... 627

PAGE

Tubercular Arthritis, Treatment of ... 534
Milk ... 694
Tuberculosis, Genital ... 557
in Children, Prophylaxis of ... 353
Transferable by Vaccination, is ... 693
Surgical Aspect of ... 532
Turnbull, L., Aperient Mineral Waters in Ear, Throat, and Chest Diseases ... 521
Coca and Cocaine ... 226
Turpentine in Malignant Tumors ... 719
Typhilitis, Therapeutics of ... 260
Typhoid Fever, Abortive Treatment of ... 318, 412
Eucalyptus in ... 500
New Method of Giving Bath in ... 446
Ox-gall in ... 705
Quinine, Action of, in ... 770
Rare Sequel to ... 714, 782, 857
Remedies Employed in ... 447
Treatment of ... 44, 243, 309, 325, 381, 630, 635
at Munich ... 563
in Chicago Hospitals ... 492
New York Hospitals ... 377
Tyrotoxicon ... 639

Ulcers and Surface Wounds, Drainage of ... 773
Ultes, C., Muriate of Pilocarpine in Croup ... 666
United States, Vital Statistics of ... 675
Unna's Pills ... 633
Uræmia ... 554
Urea, Secretion of, in Man ... 622
Urethran, a New Hypnotic ... 742
Urinary Incontinence in Children ... 70, 71, 141
Urine of Children, Effect of Grape-Sugar on ... 24
Poisonous Alkaloids in ... 573
Rose-Colored ... 627
Urtica Dioica ... 859
Urticaria and Hay Fever ... 203
Uterine Dyspepsia ... 257
Hemorrhage, Medical Treatment of ... 775
Irrigation ... 339
Mucous Membrane, Applications to ... 282
Uterus, Bipolar Faradisation of ... 200
Gradual Reposition of Inverted ... 340
Treatment of Myoma of ... 699
Utilization of Condemned Criminals for Cholera Experiments ... 821

Vaccine Virus, Pulverized ... 261
Valoids ... 304, 316
Varices, Hamamelis Virginica in ... 336
Varicose Veins ... 767
Varicocele, Radical Cure of ... 476
Vaseline in Pastry ... 287
Irritation of Skin from ... 143
Vaso-motor Neuro-mechanism ... 505
Vertebral Column, Ether Spray on ... 268
Vesical Irritability, Treatment of ... 792
Vesicating Insects, Seat of Active Principle in ... 429
Vesico-vaginal Fistula, Treatment of ... 560
Vincetoxin, a New Glucoside ... 328
Vivisection Question, The ... 856
Vomiting, Resorcine as a Preventive of ... 72

Wagener, P. O., Sedum Acre in Diphtheria ... 449
Warburg's Tincture ... 454, 498
Ward, S. M., Case of Acute Arsenical Poisoning ... 519
Warts, Removal of ... 860
Water, Intrascapular Injection of, in the Extraction of Cataract ... 824
Weil, Chas., Nitro-Glycerin in Cold Stage of Intermittent Fever ... 225
Whiskey, Old Bourbon ... 747
White Precipitate, Poisoning by ... 646
Whitlow, Incisions in ... 620
Whooping-Cough, Resorcine in ... 397
Chloral in ... 834
Treatment of ... 545, 759
Williams, H. Smyth, Overdose of Cannabis Indica ... 18
Wintergreen and Birch, Physiological Action of Oils of ... 299
Wood, H. C., Cases of Spinal Diseases ... 151
Chorea ... 289
Clinical Lecture on Melancholia ... 793
Hyoscine Hydrobromate in Insanity ... 107
Method of giving Bath in Typhoid Fever ... 446
Note on Hyoscine Hydrobromate ... 594
Physiological Study of Hyoscyamine ... 649
Tannate of Cannabine ... 379
Therapeutic and Physiological Action of Hyoscine ... 1
Wounds, Decoction of Valerian Root for Contused ... 50
Oxide of Zinc in Treatment of ... 273
Writer's Cramp, Cure of ... 274

Yarrow, T. J., Salicylate of Sodium in Diabetes Mellitus ... 446
Yopon Tea ... 504

Zinc, Action of Bromide of ... 198
Ziteke, J. X., Antipyrine ... 517
Chlorate of Potassium ... 169